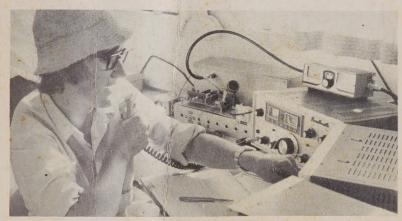
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OFFICIAL CONTROL OF AMATEUR RADIO

By TOM CLARKSON, ZL2AZ, Overseas Liaison Officer, N.Z.A.R.T.

The radio communications on which amateur activities depend constitute the Amateur Service, operating like other radio services under government regulations, which are framed to conform with those of other countries as agreed in the United Nations Specialised Agency responsible, that is the International Telecommunication Union (ITU). The authentic details are given in the New Zealand Radio Regulations 1970 and the international Radio Regulations 1959. Some of these regulations have had parts amended. They are available from the Government Printer and the ITU Geneva, respectively. In the New Zealand regulations Amateur Service means:-

"A radiocommunication service carried on by duly authorised persons interested in radio technique by way of intercommunication and technical investigation solely with a personal aim and without pecuniary interest.'

and the international regulations have virtually the same definition, but also mention the object of self-

The New Zealand Post Office administers the Radio Regulations and represents this country as a

member of ITU.

N.Z.A.R.T. is the New Zealand member of the International Amateur Radio Union (IARU).

The ITU with headquarters in Geneva, is the high authority for the regulation of radio. Its influence reposes in its Convention, which has the status of a treaty, and in its administrative conferences held from time to time on some or all radio services, the conclusions of which constitute the Regulations. Almost all countries participate in the conferences which due to the ascendency of radio in world affairs are very lively meetings. (The last major one lasted six weeks and had 800 participants). All classes of radio services are in competition to ensure a place in the radio spectrum, now stretching from 10 kHz to 275 GHz, and most services wield very strong influences through the respective government representatives. There is no actual security for the Amateur Service. The technical decisions of conferences of the ITU principally follow recommendations of its International Radio Consultative Committee (CCIR), which studies among other things methods and standards for sharing parts of the spectrum, a topic affecting amateur operations. The Post Office contributes to the work of the CCIR, putting forward the results and experiences of radio Services in this country.

Owing to the complexities of getting international agreements, and delays in the general observation of their provisions, changes in the international Radio Regulations sometimes take years to have their full effect. Conditions that might degrade amateur operations today perhaps had their origin in regulatory actions started 10 or 15 years ago. Similarly the future welfare of amateur radio needs the patient pursuit of long term policies. The World Administrative Radio Conference in 1979 will decide operating conditions for all radio services. The degree to which the amateur service as we know it can prevail will be directly dependent on the influence it can bring to bear on the forthcoming conference.

The IARU was formed in 1924 and is composed of the national amateur radio societies throughout the world. It is administered by one of its members, the American Radio Relay League, which also provides the President of IARU. Member societies in three world areas have combined in organisations to augment and assist IARU Headquarters. N.Z.A.R.T. participates in the Region III Association formed in Sydney in 1968, with present headquarters in Melbourne.

Like some other international organisations IARU enjoys "recognition" by ITU and can be admitted to conferences, with "observer" status. This is of tremendous significance for amateur interests, as it provides the possibility to contribute to, and even indirectly influence, what might be done by the official government members of conferences. IARU Headquarters, supported from the Regions, have taken advantage of these opportunities, with good

There are two avenues for N.Z.A.R.T. to play its part in this field. First, to deserve and keep the goodwill of the Post Office, to continue the enlightened official attitude we have enjoyed having in the past and ensure that New Zealand influence at ITU conferences will be in the right direction. Liaison by the Communications Manager has this objective. Second, to collaborate with the societies of other countries in their efforts to have the right thing done by their Administrations, and to assist IARU Headquarters in any way. The Region III Association works towards these two matters. The Overseas Liaison represents N.Z.A.R.T. in these activities.

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10T—Jacobsen, E. J., Maromaku, Bay of Islands.
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1PU—Nathon, I. J., Leather Street, Huntly West, Huntly.

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1PX—Martin, H. L., 15 Taiere Ter., Onehunga, Auckland, S.E.5.

1PY-

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1AMP—Hullett, E. W., 5 Endymion Place, Half Moon Bay, Howick. 1AMQ—Hughes, A. G., 20 Cameron Rd., Hillcrest, Hamil-1AMR—Davies, V. L., 772 Cameron Rd., Tauranga. 1AMS—Long, G. T., 52 College Road, Northcote, Auckland. 1AMT—Jensen, J. T., 619A Mt Eden Road, Mt Eden, Auckland 3. 1AMV—Paynter, J. W., Clark Road, Te Puna. 1AMW—Heath, M. W., R.D. 2, Pukekohe. 1AMW—Heath, M. W., R.D. 2, Pukekohe.

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1ANC—McMahon, R. D., 8 Levonia Street, Mt. Albert,
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1ANE—Gingles, J. C., R.D. 3, Hikurangi.

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  1ANW-Curtis, C. E., 5 Argyle Rd., Browns Bay, Auckland.
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AQV—Barclay, S. N., 9 Beswick Place, Auckland 10.

AQW—Woodfield, A. O. J., 153 Kohimarama Road, Auckland 5.

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1ARP—Perry, T. C., James St., Raglan.

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1ARX—Wright, P. W. J., 44 Fraser St., Tauranga.
1ARY—Chandler, R. W., 36 Eastern Beach Road, Bucklands

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1ARZ-Gibbs, F. I., Dunlop Road, R.D. 3, Te Puke.

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1ASF—Spence, N. L., Montgomery Cres., Melville, Hamilton. 1ASG—Sanderson, J. B., Main Road, Totara North.
1ASH—Williamson, O. G., 489 River Rd., Hamilton.
1ASI—Johns, M. D., 267 Riddell Rd., Glendowie, Auckland 5.
1ASJ—Dawson, C. F., Rosamund Ter., Kawhia.
1ASK—Jenkinson, H. D., Great South Rd., Ohaupo.
1ASL—Rimmer, K. S., 20 Kowhai Street, Edgecumbe.
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1ASX—White, W. A., 6 Westbourne Rd., Murrays Bay, Auckland.
1ASY—Mogan, J. G., 6 Shearwater Rise, Rothesay Bay, Auckland. Auckland.

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1ATE—Babich, A. T., 111 Aranui Road, Mt. Wellington,

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1ATG—Geddes, G. D. S., 50 Park Rd., Glenfield.

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1ATK—Harrison, G. H., Okete.

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1ATZ—Stroobant, A. D., 103A Woodglen Road, Glen Eden, Auckland. 1AUA-Wilson, B. E., 14 Nikau Street, New Lynn, Auckland. Iand.

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IAUC—Everton, F. F., 58 Rewi St., Torbay.

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1AUF—Price, L. J., Flat 2, 19 Mahoe Avenue, Rer Auckland 5. 1AUG—Street, G. H., 30 The Crescent, Waihi Beach. 1AUH—Murray, N. V., Te Toro, R.D. No. 4, Waiuku.

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1AZJ—Sutherland, S. F., 15 Summerville Street, Kaitaia. 1AZK—Keucke, F. H., 45 Weston Ave., Mt. Albert, Auckland.

1AZL-Greenhalgh, R. W., "Glenburn", Moerangi, R.D., Te Mata.

1AZM—Addison, R. R., 14 Clifton Road, Whakatane. 1AZN—Fisher, J. W., 38 Sylvan Avenue, Woodlands Park, Auckland 7.

1AZO—Waihi College Radio Club, Waihi College, Waihi (Trustee, J. K. Harvey).

1AZP--1AZQ—McKenzie, H. W., 23C Ford Avenue, Kamo, Whangarei.

Whangarei.

1AZR—Morgan, J. A., 28 Pulham Road, Warkworth.

1AZS—Sweden, J., Speddings Road, R.D. 2, Hobsonville.

1AZT—Clare, I. K., 31 O'Halloran Rd., Howick, Auckland.

1AZU—Nelson, B. C., 59 Percy St., Warkworth.

1AZV—Bodycote, W. N., 23 Halswell St., Mangere East.

1AZW—Zajonskowski, K. L., 6 Stanley Ave., Te Aroha.

1AZX—Armstrong, J. B., 10 Normanby Street, Kawerau.

1AZX—Green, R. G., 98 Albert St., Hamilton.

1AZZ—Darrall, P. G., 11 Irene Crescent, Hamilton.

1BAA—St. Kentigern College Radio Club (Trustee J. K. Clarke), Pakuranga.

1BAB—Cooper, W. G., 41A Kelvin Rd., Papakura.

IBAB—Cooper, W. G., 41A Kelvin Rd., Papakura.
IBAC—Hilliar, S. W., 33A Lake Rd, Northcote, Auckland 9.
IBAD—Knowles, R. E., Taraire Drive, Drury Hills, Drury.
IBAE—Waihi Branch N.Z.A.R.T., (Trustee) O. J. Morgan,
I Waitete Road, Waihi.

1 Waltete Kodd, Walfil.
1BAF—Woolf, H. L., 8 Rawhiti Road, Onehunga, Auckland.
1BAG—Gibbins, D. H., 369 Cobham Drive, Hamilton.
1BAH—Bromley, J. H., 61 Kea Street, Rotorua.
1BAI—Scsollum, B. D., No. 1 R.D., Matakana.

1BAJ-

1BAK-Burrage, D. H., 11 Bannister Place, Avondale, Auckland.

1BAL—Ball, T., Second Avenue, Waihou. 1BAM—Milligan, J. W., 88 Tiraumea Drive, Pakuranga. 1BAN—Hampton, D. G., House No. 44, NZED, Whakamaru. 1BAO—Martin, H. R., 18 Benlora Place, Mangere. 1BAP—Parr, J. B., 9 McCracken Road, Mt. Wellington, Auckland 6.

1BAQ—Donkin, F. R., 404 Brown St., Thames. 1BAR—Martensen, J. E., 34 Lawrence St., Auckland. 1BAS—Morgan, O. J., 1 Waitete Rd., Waihi.

1BAT--St. Albans Scout Group Radio Club (Trustee) N. J. Volkner, 132 Grange Road, Mt. Eden, Auckland.

1BAU—Bakulich, J. V. M., Mt. Wesley Rd., Dargaville. 1BAV—Vial, S. B., 159 Kowhai Road, Mairangi Bay, Auckland 10.

1BAW-Allardice, M. H., 6 Willow Way, Pakuranga, Auck-

land.

1BAX—Slaven, C. P., 19 Gilmore Street, Waihi.

1BAY—Bodycote, H. L., 23 Halswell St., Mangere East.

1BAZ—Smith, B. D., 22 Nixon Street, Hamilton East.

1BBB— 1BBC—Coleman, P. J., 28 Tahurangi Street, Kamo. 1BBD—Annear, D.G., 175 St. Johns Road, Remuera, Auckland 5.

1BBE—Little, A. J., Hodderville Boys Home, R.D. 1, Putaruru.

1BBF—Lusk, R. I. B., 54 South Titirangi Road, Titirangi, Auckland. 1BBG-

1BBH-Hannaford, J. W., Waimarie Road, Whenuapai, Auckland.

1BBI—Wilson, I. I., 100 Victoria Ave., Remuera, Auckland. 1BBI—Ede, R. P. A., 42 Baberton Rd., Tokoroa. 1BBK-Hoult, G. E., Queen Elizabeth Hospital, Rotorua.

1BBM-Ashton, H. G., 1 Boundary Rd., Henderson.

IBBN—Asnton, H. G., I Boundary Rd., Henderson.
IBBN—Parr, W. R. (Mrs), Paterangi Rd., Te Awamutu.
IBBO—Mahurangi College Radio Club (Trustee, L H.
Bavage), Warkworth.
IBBP—Peace, K. I., 71 Rolleston Street, Kihi Kihi.
IBBQ—Brabec, M. W., 20 Fitzherbert Street, Putaruru.
IBBR—Chamberlain, P. C., Kawakawa Bay Road, No. 2 R.D.,

Clevedon.

1BBS—Kilpatrick, G., 48A Polygon Road, St. Heliers,
Auckland 5.

1BBT—Kings College Radio Club (Trustee, W. T. Power), Kings College, Middlemore, Auckland. 1BBU—Medley, E. J., 20 Henderson Crescent, Tauranga.

1BBV—Scheel, K. E., 17 Bentleigh Avenue, Avondale, Auckland 7.

1BBW---Williams, K., Taurikura.

1BBX-Matamata College Radio Club (Trustee: V. A. Lewis), Matamata.

1BBY—Brown, F. W. S., 241 Queens Rd., Panmure, Auckland.
1BBZ—Holt, R., 17 Matai St., Waiuku.
1BCA—Batkin, B. W., Batkin Road, Hunua, R.D. 4, Papa-

BCC—Crandall, S., V., Batkin Road, Hunua, R.D. 4, Papa-kura.

1BCB—Lewis, K. J., 123 Wheturangi Road, Greenlane, Auckland 5.

1BCC—Crandall, S., 20 Princess Street, Waihi.

1BCD—Roberts, A. R., 33 Elliott Cres., Rotorua.

1BCE—Eckett, J. A. B., 23 Pinedale Place, Henderson, Auckland.

1BCF—Kendrick, F. S., Pyes Pa Rd., R.D. 3, Tauranga.

IBCG-

1BCH—Davis, B. C. B., 115 Great South Road, Manurewa. 1BCI—Sinclair, N. S., 6 Sharyn Place, Tauranga.

1BCK-Braddock, F. W., 18 Masters Ave., Hillcrest, Hamil-

ton.
1BCL-Lewis, V. A., 38B Burwood Rd., Matamata.

BCM—Mayhill, F. A., 24 Manson Street, Tauranga.
BCN—McCarthy, P. D., 92 Tirakau Drive, Pakuranga.
BCO—Taupo Branch N.Z.A.R.T., Trustee, J. G. Dixon, Taupo County Depot, Spa Rd., Taupo.
BCP—Peters, S. J., 43 Wilsher Cres., Henderson.
Auckland.

1BCQ-

IBCR—Dodd, P. B., C/o ANZ Bank, 19-21 St. George St.,
Papatoetoe.

1BCS—Cole, B. L., 1 Bushland Avenue, Papakura. 1BCT—Kelston Boys' High School Radio Club—(Trustee) J. W. Goodsir, Archibald Road, Kelston, Auckland

1BCU—Boyd, B. F., 34 Carrington Street, Hamilton. 1BCV—White, J. W., 10 Waitawa Road, Whangarei. 1BCW—Webber, H. C., Ngataipua Road, Kopurehi, R.D. 1, Turua.

1BCX-Fasher, N. C., 158 Williams St., Cambridge.

1BCY—McMillan, D. L., 371 Dey Street, Hamilton.
1BCZ—Drummond, D. T., 5 Griffiths Place, Hamilton.
1BDA—Wright, C. C., 24 King Edward Avenue, Bayswater,
Auckland 9, 326 Creek South, Read Manurous

IBDB—Travena, M. R., 226 Great South Road, Manurewa. IBDC—Brown, N. G., 19 Fitzherbert Street, Putaruru. IBDD—Bowman, M. J., 3 Crichton Tce., Takapuna, Auck-land 9.

land 9.

IBDE—Visser, P., 4 Kauri Crescent, Matamata.

IBDF—Petherick, G. R., 84 Aroha Avenue, Morningside, Auckland 3.

IBDG—Mogford, F. L., 74 Bucaanan Street, Opotiki.

IBDH—Latham, G. W., 5A Halberg Crescent, Whakatane.

IBDI—Draper, N., 61 Churchill Road, Murrays Bay, Auckland 10.

IBDJ—Monk, E. C. (Mrs), Matipo Ave., Rotorua.

IBDK—Jacobson, C. J., Main Highway, Maunu 9 R.D., Whangarei.

Whangarei.

1BDM—Hansen, A. F., 8 Punga Grove, Whangarei. 1BDN—McGivern, J. A., 11 Marlowe Rd., Avondale, Auckland.

IBDO—Mancer, E. S., 4 Poto St., Henderson, Auckland.

IBDP—James, J. R., Flat 3, 106 Tuwharetoa Street, Taupo.

IBDQ—Hunter, I. M., 44 Bleakhouse Road, Howick.

IBDR—Boucher, P., 7 Ellerslie Park Road, Ellerslie,

Auckland 5.

IBDS—Soufflot, N. F. M., 4 R.D., Albany.

IBDT—Chitty, M. C., 726 East Coast Road, Browns Bay,

Auckland 10.

1BDU-Catton, R., 39 Andrew Rd., Howick.

1BDW—Brown-Douglas, F. J., 14 Cross Street, Taumarunui. 1BDX—James, R. A., 55 Hatepe Ave., Taupo.

IBDY—Seakins, J. M., 99 Exmouth Road, Auckland 9.

1BDY—Hoban, C. J. (Mrs), No. 4 R.D., Te Awamutu.

1BEA—Miller, E. R., 4 Kamahi Road, Rotorua.

1BEB—Williams, P., Kaihere R.D., Ngatea.

1BEC—Cobham, W. T. R., 24 Pukeko Street, Rotorua.

1BED—Patchett, P. B., 88 Astley Avenue, New Lynn, Auckland 7.

1BEE—Takapuna Grammar School Radio Club (Trustee: T. F. Turnwald), Lake Road, Takapuna.

1BEF-Fitzgerald, B. E., 39 Mount View Rd., Melville, Ham-

iltón. 1BEG—McFarlane, G. M., 3 Tui Place, Tokoroa.

BEE—McFarlane, G. M., S. III Flace, Tokoroa.

1BEH—Bertram, M. B., 11 Green Lane East, Remuera, Auckland.

1BEI—Ellis, M. R., 133 Douglas Street, Whakatane.

1BEJ—McCabe, B. R., 400 West Coast Rd., Glen Eden, Auckland.

1BEK—McTurk, P. T. R., 38 Silverton Road, Waihi.

1BEL—Lees, B., 118 Melrose Road, Hillsborough, Auckland 4.

BEM—Cartwright, J. F. L., 17 Jaemont Ave., Te Atatu.

1BEN—Robertson, I. C., 17 De Vere Crescent, Hamilton.
1BEO—Witheford, P. S., 96 Old Onerahi Road, Onerahi,
Whangarei. 1BEP-

1BEQ—Ogden, R. H., Coopers Beach, R.D. 3, Kaitaia. 1BER—Wood, G. J., Athenree, R.D. 1, Katikati. 1BES—Barnes, J. C., Main Rd., Kumeu.

1BEU-

1BEV—McDavitt, F. J., Luckens Rd., Hobsonville, Auckland. 1BEW—Dodds, P. B., Waimarie Road, Whenuapai Village, Kumeu.

1BEX-

1BEY—Smart, J. B., 157 Rodney Street, Wellsford.
1BEZ—Auckland Regional Authority, Civil Defence Division
Radio Club (Trustee) G. G. Poulton, "The
Bunker," Epsom Avenue, Auckland.

1BFA-Butcher, P. D., 168 Raumanga Valley Road, Whangarei.

1BFB—Walker, I. D., 51 Caronia Crescent, Mt. Roskill, Auckland.

1BFC-Hellyar, J. S., Apt. 1, 205 Tamaki Drive, Auckland 5. 1BFD—Potts, G. C., Flat 8, 74 Walmsely Road, Otahuhu, Auckland 6.

1BFE--Harland, J. C., 8 Aotea Crescent, Tokoroa.

1BFF—McGrath, R., 4 Bank Street, Birkenhead, Auckland 10. 1BFG—Cooper, E. H., 224 Great South Road, Greenlane. Auckland.

1BFH—Perkins, I. M., Te Poi, R.D. 3, Matamata.
1BFI—Lilley, E. J., 68 Houchens Road, Hamilton.
1BFJ—Adams, L. B., 32 Elizabeth Street, Matamata.
1BFK—Frakes, M. C., 21 Beach Road, Howick, Auckland.

1BFM-Andrews, T. I., 17 Grey Street. Hamilton. 1BFN-

1BFO-

1BFP-Gaeth, O. J., 14A Brinkley Road, Otumoetai, Tauranga.

1BFQ—Bailey, K. W., C/o A. J. Nixon, R.D. 2, Kumeu. 1BFR—Beere, J. E. L., 23 Beaubank Rd, Kelston, Auckland 7. 1BFS-Birt, K. D., 19 Gibbs Crescent, Red Hill, Papakura. 1BFT-1BFU-

1BFV-Walsh, J. C., 3 Hewson St., Ellerslie, Auckland.

1BFW-Mawhinney, P. E., 33 Paihia Road, Onehunga, Auckland 6.

1BFX-Broadley, C. L., 12 Bayview Road, Takapuna, Auckland 9

1BFY—Donaldson, D. L., 80 Woolfield Road, Papatoetoe. 1BFZ—Robertson, D. J., 29c Youngs Rd., Papakura. 1BGA---

1BGB--

1BGC—Waite, F. W., 15 Fernleigh Ave., Epsom, Auckland 3. 1BGD—Davis, B. T., 13 Station Road, Takanini. 1BGE—Whitwell, G. R., 16 Cobham Drive, Kawerau. 1BGF—Kerr, I. S., 7 Kennedy Street, Paeroa. 1BGG—The Boys' Brigade First Papakura Coy, Radio Club

(Trustee, C. W. Garlick), 4 Coles Crescent, Papakura.

1BGH-Tidey, J. D., 6 Corilin Place, Rotorua.

1BGI—Crabtree, J. A., Moumoukai Valley, R.D. 3, Papakura. 1BGJ—Beattie, R., 806 East Coast Road, Browns Bay, Auckland.

1BGK—Bugden, K. G., 20 Marriott, Road, Pakuranga. 1BGL—Kirkland, W. A., "Hillview", Te Haumi, Paihia (P.O. Box 153). 1BGM—Kirkland, F. S. (Mrs), "Hillview", Te Haumi, Paihia (P.O. Box 153).

1BGN—Rounthwaite, T., 52 Gladstone Road, Northcote, Auckland 9.

1BGO—Davies, S. N. M., 59 Selwyn Crescent, Milford, Auckland 9. land 9. J. S., 37 Imrie Avenue, Mangere East. Auckland.

1BGP—Paltridge, J. S., 37 Imrie Avenue, Mangere East. Auckland.

1BGQ—McChesney, G. R., 23 Great South Road, Papatoetoe.

1BGR—Maddern, D. E., R.D. 7, Arohena, Te Awamutu.

1BGS—Waterhouse, F. L. K., c/o B. E. Smith, "Merryvale", Bethlehem Road, R.D. 1, Tauranga.

1BGT—Reid, L. R., 22 Hillcrest Avenue, Rotorua.

1BGW—Rundell, L. I., 227 King Street Extn, Whakatane.

1BGW—Roberts, M. J., 11 Grey Street, Hamilton.

1BGW—Maude, R. deM., 68 Levers Road, Otumoetai, Tauranga.

1BGX—Heincen, M. J., 37 Evelyn Road, Howick, Auckland.

1BGY—Beebe, S. H., 351 Peachgrove Road, Hamilton.

1BGZ—Forsyth, A. B., 37 College Road, Edgecumbe.

1BHA—Lamont, D. J., 305 Willoughby Street, Thames. 1BHC—Baird, R. E., C/o B. Ody, R.D. 4, Whangarei. 1BHD—Weddell, E. I., Seaview Avenue, Te Puru, Thames. 1BHE—Matthews, J. F., 26 Oceanview Rd., Northcote, Auckland. IBHF—
IBHG—Grindley, E. J., 34 Stonex Road, Papatoetoe.
IBHH—Wesley College Amateur Radio Club (Trustee) J.
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IBHI—Dingle, W. M., 27 Ceseys Avenue, Hamilton.
IBHJ—Dekker, J., 14 Bracken Street, Cambridge.
IBHK—Wills, Alma, E. (Mrs), 1364 Dominion Road Ext.
Mt. Roskill, Auckland 4.
IBHL—Taylor, G. L., Gafes Road, R.D.1., Hamilton.
IBHM—Te Puke, C., Kaitoa Road, Ngaruawahia.
IBHN—Oliver, K. W., 29 Kotare Crescent, Whangarei.
IBHO—Vickerstaff, A. A., Mountain Road, R.D. 1,
Henderson, Auckland 8.
IBHP—Potter, W. H., 5 Washer Avenue, Whakatane.
IBHQ—Powell, J. F., 47 Becroft Drive, Forrest Hill, Auckland 10.
IBHR—Akins, C. A., 5 Lilburn Street, Warkworth.
IBHS—Hutchinson, S. R., 293 St Heliers Bay Road, Auckland 5. IBHU—Hastings, W. A., Weka Road, Taupo.
IBHV—Parkinson, M. A., 24 Roosevelt Road, Rotorua. 1BHX—Young, C. R., 1 Aotearoa Terrace, Murrays Bay, Auckland 10.

1BHZ—May, D. V., 20 Learmonth Avenue, Birkenhead, Auckland 10.

1BIA—Oliver, J., 29 Kotare Crescent, Whangarei.

1BIB—Hookham, C. R., 54 Cornwall Road, Papatoetoe.

1BIB—Book, G. A., C/o Pavlova Coffee Lounge, Gt South Road, Papakura.

1BID—Davis, E. T., 26 Royal Arch Place, Papakura.

1BIE—Belcher, G. M., 22 Park Street, Morrinsville.

1BIF—Jenkins, K. B., 121 Valley Road, Papakura.

1BIG—Cubitt, B. L., Flat 5, 27 Cameron Road, Hamilton IBIH—Hearn, W. A., 25 Grey Street, Waihi.

1BII—Shakes, L. C., 131 River Road, Kawerau.

1BIJ—Williams, L., 19 Paton Road, Howick, Auckland.

1BIK—McKechie, K. H., 7A Woodvale Road, Auckland 7.

1BIK—Dale, E. C. (Miss), 61 Rodney Street, Wellsford. 1BHX---18IM—Dale, E. C. (Miss), 61 Rodney Street, Wellsford.
18IN—Nutting, L. G. W. D., 5 Garland Road, Greenlane,
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18IO—Narios E. 1BIO-Napier, E. J., 17 Seaview Road, Glenfield, Auckland 1BIQ-Eckett, S. J. B., 23 Pinedale Place, Henderson, Auck-1BIR—Rist, T. A., 73 Miller Road, Mangere, Auckland.
1BIS—McEniery, R. A., 20 Vista Crescent, Glendowie, Auckland. 1BIT-Chapman, B. J., Cadmans Rd., R.D. 3., Tirohia, Paeroa. TBIV—Garrett, J. W., 8 Maheke St., St Heliers, Auckland 5. 1BIW—Ward, L., 60 Ranfurly Street, Dargaville. 1BIX—Soppet, D. A., 4A Ruarangi Rd., Mt. Albert, Auckland 3. IBIY—Kralicek, V. J., 42 Kenney Street, Rotorua.
IBIZY—Henry, E. J. (Mrs), 27 McRae Road, Mt Wellington,
Auckland.

1BJB—Beale, D. J., 108 Makoia Road, Birkenhead, Auckland 10. ZL—

1BJC—Head, B. P., 17 Grassmont Terrace, Otumoetai,
Tauranga.

1BJD—Woods, G., Tauranga Hotel, Tauranga.

1BJE—Reed, D. W., 703-709 Dilworth Bldg, Custom Street,
Auckland 1. IBJG—Gray, M. F., 57 Yates Road, Mangere East.
IBJH—Jekel, H. B., Ascot Road, Mangere.
IBJI—Goodsir, J. W., 10 Glengarry Road, Glen Eden, Auckland 7.

1BJJ—Morris, T. J., Paparoa Road, Te Puna, R.D. 2,

1BJK—Turner, R. W., Main Road, Waitoa.

1BJL—Williams, C., R.D. 2, Cambridge. 1BJN—Terrill, R., Flat 21, Fire Headquarters, Pitt Street, Auckland 1.
1BJO—Wright, W. O., 2 Forbes Place, Kawerau.
1BJP—Parkinson, D. J., 36 Western Road, Otumoetai, Tauranga.

1BJQ—Wardley, D. E., 45C Ambler Avenue, Glen Eden,
Auckland 7.

1BJS—Keay, G. S., 11A Huia Road, Titirangi, Auckland 7.

1BJS—Anderson, R. W., 57 Pandora Avenue, Rotorua. 1BJU—Thompson, N. K., 42 Roseberry Avenue, Birkenhead, Auckland.

1BJV—Turvey, W. W., 20 Nutsey Avenue, Northcote, Auckland 9.

1BJW—Hallett, W. R., 37 Savoy Road, Glen Eden, Auckland.

1BJX—Clark, L. D. G., 140 East Tamaki Road, Otara.

1BJY—Burry, J. P. P., 50 Reid Road, New Lynn, Auckland 7.

1BJZ—Burton, N. F., 10 Astor Place, Clayton Park, Manurewa.

1BKA—McIntosh, G. S., 10 Watson Place, Papatoetoe.

1BKB—Williams, C., 198 Harbour Road, Port Ohope.

1BKC—Broderick, T. E., 43 Tainui Street, Tokoroa.

1BKD—Busch, T. C., Main Rd., Towai.

1BKE—Beets, R. F., 34 Massey Street, P.O. Box 71, Kawerau. 1BKE—Beets, R. F., 34 Massey Street, P.O. Box 71, Kawerau.

1BKF—Marshall, O. H., 16 Dunlop Drive, Papanui Beach.
1BKF—Wilson, T. G., 53 Tirimoana Road, Te Atatu, Auckland 8.

1BKH—Hogg, E. R., 33 Simmons Crescent, Rotorua.
1BKI—Boshier, D. M., 24 Ross Street, Onerahi, Whangarei.
1BKJ—Sandlant, P. W., 17 Mayfair Crescent, Mairangi Bay, Auckland 10.

1BKK—Edwards, K., 17 Arthur Street, Ellerslie, Auckland, 5.
1BKL—M. W. Lister (Mrs), Ridge Road, Point View, Papatoetoe (P.O. Box 23-508 Auckland).

1BKM—Engel, F. W., 33 Fairmount Road, Glen Eden, Auckland. land.

1BKN—Codlin, J. K., 12 Margaret Street, Tauranga.

1BKO—Blyth, R. A., 119 Peary Road, Mt. Eden, Auckland, 4. 1BKP—
1BKQ—Adams, C. W., 18 Tizards Road, Birkenhead, Auckland, 10.
1BKR—Cunliffe, J. J., 11 Martin Road, Manurewa.
1BKS—Cunliffe, V. G., 83 Grace Road, Tauranga.
1BKT—Buxton, D. A. L., 47 Wallace Terrace, Te Awamutu.
1BKU—Williams, G. H., Taurikura.
1BKV—Coombs, M. J., 38 Park Avenue, Tokoroa.
1BKW—Lees, G. D., 120 Whitney Street, Blockhouse Bay, Auckland 7.
1BKX—Rodgers, A. E., 19 Cradock Street, Avondale, Aucks 1BKX—Rodgers, A. E., 19 Cradock Street, Avondale, Auckland 7.
1BKY—Hothem, N. V., 413 Great South Road, Papakura, Auckland. 1BKZ—Henry, R. I., 27 McRae Road, Mt Wellington, Auckland, 6. Auckland, 6.

1BLA—Fox, R. D., 36 Galaxy Drive, Mairangi Bay,
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1BLB—Churcher, B. R., 2 Thorley Street, Mt. Eden, Auckland 1.

1BLC—Morris, T. N. J., 47 Boundary Road, Blockhouse
Bay, Auckland.

1BLD—Ward, M. T., Silverhill Road, Te Hana.

1BLE—Stewart, R. D., No. 2 R.D., Kaipara Flats.

1BLF—Poletti, M. J., 69 Willis Road, Papakura.

1BLG—Grimes, R., 5 Fifth Avenue, Mt Albert, Auckland 3.

1BLH—Walton Scout/Ranger Radio Club (Trustee G. K.

1BLI—Ockleston, E. W., 25 Killarney Street, Takapuna,
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1BLJ—Hutchins, M. G. D., 92 Pah Road, Howick, Auck-1BLJ-Hutchins, M. G. D., 92 Pah Road, Howick, Auckland. 1BLK—Turnbull, P., 51 Nixon Street, Hamilton.
1BLL—Adnitt, E. (Mrs), 20 Rutherford Street, Otumoetai,
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1BLM—Creswell, R. M., 47 Tamaki Drive, Mission Bay,
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1BOA—Baker, P. G., 25 Kauri Crescent, Matamata. 1BOB—Manley, R. C., 9 Laurie Avenue, Parnell, Auckland 1. 1BOC—Dennis, G. A., 91 Bridge Street, Opotiki. 1BOD—Norrie, B. G., P.O. Box 71, Coromandel. 1TAA—Allison, M. A., P.O. Box 107, Surfdale, Waiheke Is., Auckland. IBLN-IBLO—Holt, J., 17 Matai Street, Waiuku. IBLP—Burrows, G., 21 Graham Bell Avenue, Auckland 4. 1BLQ—Goree, F. L. J., 4 Kevin Street, Rotorua. 1BLR—Fish, L. G., 9 Ann Street, P.O. Box 862, Rotorua. 1BLS—Smith, J. B., 45 Thornlow Street, Glen Eden, Auck-1TAB-Thomas, R. P. T., 21 High St., Glenfield, Auckland. BLV—Alderwick, G. B., 30 Nixon Street, Hamilton.

1BLV—Aiturau, T., 13 McNaughton Avenue, Mangere.

1BLV—Howells, D., 5 Weka Street, Rotorua.

1BLW—Tweeddale, K., R.D. 4, Woodlands, Opotiki. 1TAC-ITAD—Johnston, R. B., 11 Coates Ave., Orakei, Auckland. ITAE—English, B. D., 58 Sycamore Drive, Mairangi Bay, Auckland 10. ITAF—MacMillan, R. E., 542 Main South Road, Hatfields Bay, Orewa. ITAG—Plimley, A. E., 104 Porawai Road, Thames. ITAH— 1BLX—Weston, G. A., 179 Rosebank Rd., Avondale, Auckland 7. 1BLY—Boys' Radio Club, Hamilton Boys' High School (Trustee, A. M. Thomas), Peachgrove Rd., 1TAI—McBurney, R Auckland. R. T., Oliver Road, Bucklands Beach, 1BLZ-Eastern Suburbs Electronic Radio Club (Trustee: Mrs Auckland.

1TAJ—Mitchell, C. R., 6 Sylvan Crescent, Woodlands Park, Titirangi, Auckland 7.

1TAK—Sergent, P. A., 20 Marie Avenue, Te Atatu South.

1TAL—Sergent, M. A., Mrs, 20 Marie Avenue, Te Atatu South, Auckland.

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1TNV—McCusker, G., 18 Bowen Street, Kawerau.

1TNV—McCusker, G., 18 Bowen Street, Kawerau.

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1TOH—Deacon, J. W., 156 Bellevue Road, Tauranga.
1TOI—Lenz, M. C., 59 Vercoe Road, Hamilton.
1TOJ—Anderson, L. J., 91 Sandspit Rd., Waiuku.
1TOK—Hopkins, K. R., Ruakura Road, R.D. 4, Hamilton.
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```
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2AC—
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2CW—Jensen, W. H. E., 22 Rondwick Cresc., Lower Hutt.
2CX—Dolan, J. B., 9 Devon Road, Wanganui.
2CY—Francois, L. G., William St., Richmond, Nelson.
2CZ—Smith, L. A., 95 Glenpark Avenue, New Plymouth.
2DA—Newlands, G. B., 367 Waiwhetu Rd., Lower Hutt.
2DB—Brown, A. D., 161 Great North Road, Wanganui.
2DC—Chisholm, W. P., 86 Featherston St., Palmerston North.
2DD—Goodin, N. H., 18 Trafalgar Street, New Plymouth.
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2AG—Bruce, J. R., R.D. 1, Taihape.
2AH—Reed., W. St. J., 11 Wood St., Upper Hutt.
2AI—Sandford, H. D., Renwick, Blenheim.
2AJ—Parminter, H. V., 121 The Ridgeway, Wellington, S.W.1.
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2AN—Barcham, P., 3 Tauroa Rd., Havelock North.

2AO—Branigan, C. K., 3 Central Ter., Lower Hutt.

2AP—Eade, A., R.D. 4, Palmerston North.

2AQ—Gabites, J. F., 31 Espin Crescent, Wellington 5.

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2AT—Beale, E. W., 301 Frimley Avenue, Hastings.

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2AY—McComb, D. R., 156 Whitaker Street, Gisborne, 2AZ—Clarkson, T. R., 35 Walter Road, Lowry Bay.
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2BC—
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   2JD—

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2JJ—Newman, J. E., Tuhara, Wairoa.
       2JK-
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    2JQ-White, J. T., 62 Bisley Avenue, Tahunanui, Nelson.
  2JR—
2JS—Black, I. W., 46 Harris Street, Marton.
2JT—Story, R. B. E., Cormith House, Wellington Street.
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2JU—Fanthorpe, J. K. L., 7 Evelyn Place, Wellington, C.2.
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2JW—Hanley, A., 6 Mudie St., Lower Hutt.
2JX—Pearce, M. E., 51 Buick St., Petone.
           2JY-
         2JZ-Dawson, A. H., 34 Hudson Avenue, Upper Hutt.
2KA—Cuthbert, G. A., 186 Derwent St., Island Bay, Wellington, S.2.
2KB—Kapiti Branch N.Z.A.R.T., Kapiti Branch (No. 69)
N.Z.A.R.T. (Inc.) (Trustee: G. H. Railton, 7 Konini
                           Road, Raumati.
   2KC—Moess, C. R., 13 Churchill Avenue, Fielding.
2KD—Shepherd, D. A. C., 13 View Rd., Titahi Bay.
2KE—Smith, W. A. D., Garage, Urenui.

2KF—Gould, A. G. de T., 120 Cleveland Terrace, Nelson.
2KG—Sharland, K. O., 370 Hardy Street, Nelson.
2KH—Bennett, V. H., 57 Victoria Ave., Palmerston North
2KI—Armstrong, M. W., 121 Meadows Avenue, Lower Hutt.
2KJ—Roper, D. J., 23 Brookes Street, Inglewood.
        2KK—Cruttwell, J. M. R., 60 Mount Street, Nelson.
2KL—Heuvel, T.V.D., 8 Silverstream Road, Crofton Downs,
Wellington.
2KM—Robertson, G. A., R.D.2, Bay View, Napier.
2KN—Millward, H. P., 11 Tulloch St., St. Johns Hill,
Wanganui.
        2KO—Manawatu Branch NZART Inc. (Trustee, P. E. Grove),
15 Pirie Street, Palmerston North.
2KP—Lowe, E. E., 7 Avon Terrace, Palmerston North.
2KQ—Spiers, M. E., O'Dwyers Road, Spring Creek, Blenheim.
         2KR-
         ZKS—Furness, J. S., 185 Howick Road, Blenheim.
2KT—Brooker, R. G., Ikanui Road, Hastings.
2KU—Word, T., 47 Kono St., Korori, Wellington, W.3.
2KV—Martin, C. J. T., Mountain Rd., Inglewood.
2KW—Palmer, C. P., R.D. 2, Patea.
2KX—Wickstead, C. G., 31 Pinny Avenue, Lower Hutt.
2KY—Conner, M. G., 3 Oxford Cres., Upper Hutt.
          2KZ—Kingston, G., 53 Tannadyce Street, Wellington 3.
2LA—Dixon, R. A., 58 Auckland Street, Picton.
         2LB—Fouhy, W., 9 Te Ara Rd., Pukerua Bay.
2LC—Leith, L. B., 19 Kowai St., Naenae.
2LD—Westwood, E. N., 26 Ropata Cres., Lower Hutt.
          2LE-Pinhey, J., 210 Tukapa Street, New Plymouth.
          2LF—Guthrie, W. A., 27 Cook St., New Plymouth.
2LG—Pierce, S. W., 1 Lemon Street, Otaki.
          2LH-Sharland, R. T., 409 Wakefield Quay, Nelson.
         2LJ—O'Grady, P. L., 8 Cambridge St., Tawa.
2LK—Dance, W. E., 3 Kinloch Crescent, Blenheim.
2LL—Ready, C. S., 22 Lyall Parade, Wellington 3.
2LM—Merrick, L. F., 22 Bledisloe Ave., Nelson.
2LN—Adams, C. L. 29 Paremata Street, Atawhai, Nelson.
         2LO—Walker, L. E. (Mrs), 5 Kingsley Place, Richmond. 2LP—Wickham, H. W., 42 Wilford Street, Upper Hutt.
         2LQ-Phillips, E. L., Rapaura R.D., Blenheim.
         2LS—Steel, L. H., 12 Bayley St., Gisborne.
2LT—England, G. E., 29 Horokiwi Road, Wellington 4.
         2LU—Bustard, A. T., 27 Brook St., Lower Hutt.
2LV—Maloney, K. A., 305 Lumsden Rd., Hastings.
          2LW-
         2LX—Motion, R., 5 View Road, Melrose, Wellington.
2LY—Masters, W. C., 8 Waerenga Road, Otaki.
2LZ—
          2MA-Cahill, E., 55 High Street, Motueka.
         2MC—Lawson, S. C., 19 Linton St., Blenheim.
2MD—Mills, C. W., 23A Great North Road, Wanganui.
         2ME—
2MF—O'Leary, B. J., 31 Durie Street, Wanganui.
         2MG—Waimarino Branch N.Z.A.R.T. (Trustee) G. W. Luscombe, Main Rd., Waiouru.
2MH—Neal, E. W., 3 Dorset Way, Wilton, Wellington.
         2MI—Porsons, C. B., 84 Froser Ave., Rorod, Johnsonville.
2MJ—Smith, T. G., Kapuranga Grove, Stokes Valley, Wellington.
          2MK—Adams, J. A., 128 Moana Avenue, Nelson. 2ML—Castles, C. R., 5 Dickson St., Gisborne.
         2MM—Adcock, H. F., Opaki Rd., Mosterton.
2MN—Meyer, L. H., 23 Canterbury Street, Tamatea, Napier.
2MO—Johnston, R. W., 16 Duigan St, Gonville, Wanganui.
          2MP-Powell, W. G., Vogel St., Shannon.
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2MQ—Crook, P. G., 303 S Nelson Street, Hastings.
2MR—Blair, D. I., 9 Dickson Crescent, Wanganui.
2MS—Thomasen, L. H., 5 Prince St., Feilding.
2MT—Riddle, W. C. M., 27A Tennyson Avenue, Lower Hut.
2MU—Bell, S. M., 45 Renall Street, Masterton.
2MV—Collins, V. B., 47 Golders Rd., Upper Hutt.
2MV—Clark, M. J., Missell Street, Taihape.
2MX—Bellini, B. C., 241 Hastings Street, Napier.
2MX—Spackman, T. J., 9 Arawa Street, New Plymouth.
2MZ—Pool, E. A. W., 18 Sussex St., Masterton.
2NA—Shanks, J. M., 21 Pokohiwi Road, Normandale, Lower Hutt.
2NB—Barlow, F. E., 15 Sutherland Crescent, Melrose, Wel-
       2NB—Barlow, F. E., 15 Sutherland Crescent, Melrose, Wellington.
        2NC-Henderson, J., 16 College Street, Palmerston North.
       2NE—Cavanagh, K. J., 8 Windsor Terrace, Feilding.
2NF-
       2NG—Aked, M. S., 10 Vaucluse Ave., Paraparaumu Beach.
2NH—Harper, J. F. H., 19 Rimu Rd., Kelburn, Wellington.
       2NI-Dumbleton, G. W., 88 Oriel Avenue, Tawa.
       2NK—Johnson, K. G., 36 McKinley Street, Wellington 2.
2NL—Clinch, V. J., 3 Huntleigh Park Way, Ngaio, Wellington.
       2NM-Matheson, G., 8 Bella Grove, Naenae, Lower Hutt.
       2NN-Pye, J. C., 33 Wyndham Rd., Pinehaven.
       2NO-Grace, K. E., 7 Hibiscus Grove, Lower Hutt.
       2NP-King, A., 124 Oxford Terrace, Lower Hutt.
      ZNQ—Ring, A., 124 Oxford Terrace, Lower Hutt.
ZNQ—Fairbrother, E. H., 132 Wellesley Rd., Napier.
2NR—Rubery, T. F., 15 Bond Street, Marton.
2NS—Douche, W. P., 12 Norris St., Taita, Wellington.
2NT—Sutton, C. H., 6 Andrew St., Stoke.
2NU—Budd, L. A., Tahuri St., Manaia, Taranaki.
2NV—Johnston, A. F., 168 Wellington Road, Paekakariki.
       2NX—Bell, L. G., 80 Seatoun Heights Rd., Wellington, E.S.
2NY—Wigg, J. D., New Taihape Hotel, Hautapu St, Taihape.
       20A—Stannard, P. C., 15 Jordan Ter., Masterton. 20B—Pye-Smith, J., St. Arnaud, RMD, Nelson.
         20C---
       20D—Barnes, W. D., 142 Renall St., Masterton.
       20E—Logan, D. J., Horokiwi Rd., Newlands, Johnsonville.
20F—Pentelow, L. C., Kina Rd., No. 1 R.D., Opunake.
20G—Chisnall, R. R., 19 Delhi Street, Wellington.
       20H-McMillan, W. I., 7 Hillary St., Tawa.
       20J-Lavin, J. F., 59 Beauchamp St., Wellington.
       20K-Dickson, A. J., 18 Manuka St., Palmerston North.
       20L—Sigglekow, R. W., 251 Riddiford Street, Wellington.
20M—Blagdon, R. W., 12 Kandy Crescent, Ngaio, Welling-
       20N---Crooke, D. M., No. 3 Gate Pa Ave., RNZAF Base,
                                   Ohakea.
       200—Ellison, N. H., 2 Hildreth St., Wellington, W.3. 20P—Scambary, G. E., 54 Athlone Cres., Lower Hutt.
       20Q—Prichard, G. H., 14 Queen's Rd., New Plymouth. 20R—Osborne, D., 9 Greenock Place, Palmerston North. 20S—Lonsdale, J., 41 Maxwell Avenue, Wanganui. 20T—Girling, J. R., 23 Miro Street, New Plymouth. 20U—Parminter, J. D., McLean St., Wairoa, Hawkes Bay. 20V—Lee, W. G. 11 Henderson Street, Karori, Wellington W.3.
       20W—Forbes, W. D., 28 Strathmore Ave., Seatoun, Wellington, E.5.
        20X-Turner, R., 4 Hector Grove, Trentham.
        20Z-Martin, O. W., 13 Ellora St., Ngaio, Wellington, N.4.
       2PA—Leete, J. B., 22 Lansdowne Cres., Masterton.
2PB—McLaren, H. B., 49 Green St., Tahunanui, Nelson.
2PC—Mitchell, G. W., Waitohu Rd., York Bay, Wellington.
          2PD-
       ZPE—Watkins, H. L., 73 Argyle Ave., Palmerston North.
2PF—King, T., 126 Russell Street, Gisborne.
2PG—Elliott, K. L., 126 Renown Road, Raumati South.
2PH—Hanify, G. C. P., 18 Rangiora Ave., Kaiwharawhara,
Wellington, N.3.
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2PI-Treleaven, A. R., 88 Monrad St., Palmerston North.

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PJ—Spellman, P. J., 36 Record Street, New Plymouth.

2PK—Wilson, A. B., 15 Woodhouse Place, Napier.

2PL—Young, C. T., 3A Princeton Road, Raumati Beach.

2PM—Norman, J. N. M., 9 Hathaway Ave., Lower Hutt.

2PN—Ferguson, T. A., Flat 15, Sirrus Flats, 6 Nuku Street,

Wellington 3.

2PO—Tout, R. E., 547 Rocks Road, Nelson.

2PP—Sinclair, J. D. J., 13 Marlowe St., Stoke.
 2PR—Nalder, R., 389 Palmerston Rd., Gisborne.
2PS—Marett, D. K., 42 Wilford Street, Upper Hutt.
2PT—Meyrick, B. B. P., 14 Churcher Street, Feilding.
   2PU-
 2PV-Molony, M., 66 Longfellow St., Upper Hutt.
 2PW—Vickers, E., 22 Maratahu St., New Plymouth.
2PX—Taylor, M. F. W., 67 Cleary Street, Lower Hutt.
2PY—Heslop, H. G., 18 Chamberlain St., Tahunanui, Nelson.
2PZ—Russell, D. L., 38 Fraser Avenue, Johnsonville.
2QA—Kermeen, L. V., 16 Chittick Street, Stokes Valley.
2QB—Trustrum, H. N. J., 19 Priscilla Cres., Mornington,
Wellington, S.W.1.
 2QC—Noble, W. A., 28A Avalon Crescent, Lower Hutt. 2QD—de la Cour, C., 17 The Drive, Tawa.
 2QE-Byrn, H. L., 15 Macara St., Masterton.
 2QF-Hoy, F. H., Chester St., Patea.
 2QG—Brunton, W. R., 98 Hospital Road, Blenheim. 2QH—Barnes, C. J., 8 Second St., Masterton. 2QI—Cheesman, R. A., 20 Parkway, Wainuiomata.
 2QK-Kenny, E. J., 5 Townley St., Gisborne.
 2QL-Neilson, L., 139 Buckley Rd., Wellington.
 2QM—Bornholt, A. V., Troon Cres., Lower Hutt.
 2QO—Alexander, K. G., 705 Tamatea Street, Hastings. 2QP—Smith, W. E., 7 Fox Street, Opunake.
 2QQ-Cook, S. T., 57 Stanley Crescent, Nelson.
 2QR-Nolan, R., 26 Mitchell Street, Brooklyn, Wellington.
 2QS—Padman, N. B., 8 McHardy Street, Havelock North.
2QT—Carran, D. O., 110 Hamilton Road, Wellington 3.
 2QU—Hitchins, M. J., Flat 38, 493 Adelaide Road, Wellington 2.
 2QV—Haynes, W. R., 77 Harrison St., Wanganui.
2QW—Lynch, J. S., 40 Dublin St., Wanganui.
2QX—Ryder, N. M., 67 Hutt Rd., Petone.
 20Y—
20Z—Hoare, D., 26 Ogilvie Terrace, Plimmerton.
2RA—Petrie, B. J. N., 17 Glen Rd., Raumati South.
   2RB---
 2RC—Coakley, R. J., 413 Albert St., Palmerston North.
2RD—Andrews, N. A., Wensley Rd., Richmond, Nelson.
2RE—Hunter, W. R., 510 Frederick St., Hastings.
  2RF—Fletcher, A. E., 480 Ferguson Drive, Upper Hutt.
2RG—Nunn, D. A., 8 Laurence Road, Napier.
 2RH—Munro, C. R., Holbern Paradé, Foxton Beach.
2RI—Savell, B. E., C/- R. L. Archibald, Moana Road,
Eastbourne.
 2RJ—Inglis, W. I., 3 Kowhai St., Otaki Beach, Otaki.
2RK—McKenzie, K., 17 Karepa St., Brooklyn, Wellington,
S.W.1.
  2RL-Berg, L. B., 8 Waikere Avenue, Lower Hutt.
  2RM—Sumner, A. H., 17 Randwick Rd., Wellington W.2. 2RN—Openshaw, J. E., 1051 Aberdeen Rd., Gisborne. 2RO—Ashford, J. W., Coastel Highway, Mapau, Nelson. 2RP—Goodger B. E. G., 15 Waterworth Avenue, Napier.
  2RQ—Small, J., 3 Bristol Street, Upper Hutt.
2RR—Holland, A. J., 6 Talbot St., Wanganui East, Wanganui.
2RS—Schdroski, W. R., 84 Strathmore Ave., Wellington, E.5.
 2RT—Jackson, H. R., Main North Road, Mokau.
2RU—Rowe, I. S., 88 Washington Ave., Brooklyn, Wellington, S.W.1.
2RV—White, R. E. W., 17 Scott Street, Wairoa.
 2RX—Randall, R. E. B., 4 Geddis Avenue, Maraenui, Napier. 2RY—Robins, J. D., 2 Nikau Road, Pt Howard, Wellington. 2RZ—Wall, A. M., "Glentui", Private Bag, Masterton. 2SA—Hunt, P. W., 167 Albert Street, Palmerston North. 2SB—Petherick, E. R., 36 Ngatitoa Street, Tawa. lington, 4.
  2RW-
    2SC---
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2SD—White, R. L., 74 Norbiton Road, Foxton.
2SE—Daws, B. V., 53 Rangiora Street, Wanganui.
2SF—Lewis, A. W., 15 Versailles Avenue, Wellington 5.
2SG—Chatfield, D. J., 14 Bedford Street, Wellington, 5.
 2SI—Corkery, M. J., 204 Waterloo Road, Lower Hutt. 2SJ—Wilson, T. D., 12 Bruce St., Masterton. 2SK—Jamieson, L. I. D., 135 Thames Street, Ohakune. 2SL—Clork, R. E., 10 Bould St., Johnsonville. 2SM—Knox, G., 33 McGowan Street, Wainuiomata.
 2SN—Drumm, B. G., 8 McGwan Street, Wainulomata.
2SN—Drumm, B. G., 8 McMahon Street, Stoke.
2SO—McDonell, D., 124 Cook St., Palmerston North.
2SP—Pahiatua Branch N.Z.A.R.T. (Inc.), (Trustee) K. E. H.
Murray, Main Rd. North, Pahiatua.
2SQ—Ford, H. W., 13 Richmond St., Wanganui.
 2SR-Van Lear, J. R., 94 Karori Avenue, Wellington.
 2SS-Leydon, B. N., 8 Maire Street, Lower Hutt.
2SS—Leydon, B. N., 8 Maire Street, Lower Hutt.
2ST—Rolfe, D., 12 Haydon Street, Palmerston North.
2SU—Arnold, R. M.,14 The Quarterdeck, Whitby, Paremata.
2SV—Searle, J. N. L., 61 Hay St., Naenae.
2SW—Jury, G. V., 73 Wallace Place, New Plymouth.
2SX—Andrews, D. V., 66 Khandallah Road, Wellington.
2SY—Hartnell, L. W., 41 Kells Ave., Wanganui.
2SZ—Pye, E. G. (Mrs), 33 Wyndham Road, Pinehaven, Upper Hutt.
                Hutt.
 2TA—Lafferty, D. A., 188 Hanson Street, Wellington 2. 2TB—Linney, E., 33 Garden Road, Naenae. 2TC—Dale, K. W., 4 Foyle St., Wellington 2. 2TD—Murphy, A., Haven Rd., Collingwood, Nelson. 2TE—Ireson, S., 21 Woodleigh Street, New Plymouth.
 2TF-Anderson-Smith, W. J., 32 Londons Rd., Koro Koro,
                          Petone.
 2TG—Woertendyke, H. D., 139 Maxwell Road, Blenheim.
2TH—Weenink, H., 16 Mahoe St., Lower Hutt.
 2TI—Conner, D. P., 40 Marewa Rd., Hataitai, Wellington, E.2.
 2TJ-Ambury, H. A. V., 37 Egmont St., Kaponga.
 2TK—Evaroa, D. T., c/o. Himatangi Radio, Private Bag, Foxton.
 2TL-Wright, H. A. L., 130 Pukepapa Road, Marton.
 2TM-Du Four, J. G., 5 Seapoint Road, Napier.
 2TN-Brighting, T. L., 23 Raglan Avenue, Palmerston North.
 2TO-Waitara Branch NZART (Trustee) R. Terrill, Devon Road, Waitara.
2TP—Pascoe, E. J., 22 Centennial Crescent, Gisborne. 2TQ—Jensen, R. T., 33 Iona Rd., Havelock North.
2TR—Laurie, G., Handyside St., Linden, Wellington.
2TS—Nixon, H. W. J., Bay Drive, Titahai Bay, Wellington.
2TT—Harlen, I. L. F., 13 Shearer Crescent, Waddington,
Lower Hutt.
2TU-Ellit, R. K., 8A Marama Crescent, New Plymouth.
2TV-Boyer, J. P., 28 Beachville Crescent, Nelson.
2TW—McCutcheon, O. D. F., C/- Mr W. T. Ennor, 27
Bowling Road, Greenmeadows.
2TX-Scanlon, V. A., 80 Wilson Street, Hawera.
2TY-Rothschild, P. H., 83 Pretoria Street, Lower Hutt.
2TZ-Scott, L. V., 109 The Ridgeway, Wellington.
2UA—Vickers, E. R., 87 Townsend Rd., Wellington, E.4.
2UB—Lowe, J. M., 23 Te Whiti Road, Korokoro, Petone.
2UC—St Clair, K. W., 70 Lees Grove, Wainuiomata.
2UD—Rodda, P. J., Kapiti Island, Box 479, Paraparaumu
                      Beach.
  2UE-Kibblewhite, K. W., 13 Rangitikei Street, Wanganui
                        East.
2UF—Cook, W. C., 8 Ponsonby Rd., Karori, Wellington. 2UG—Richardson, A. S., 9 Rimu St., New Plymouth. 2UH—Leslie, D. A., 2 Miles Crescent, Wainuiomata. 2UI—Bailey, I. L., 57 Williams Street, Napier.
2UJ-
  2UK-
2UL—Hack, L. T., 61 Kahu Rd., Paremata.
2UM—Hollard, C. S., Main Road, Urenui, R.D. 44, New Plymouth.
2UN-Robinson, C. B., The Vicarage, Waverley.
2U0—Ellison, W. L., 11 Meeanee Quay, Napier.
2UP—Pert, P. E., 11 Clyde Road, Wairoa.
2UQ—Hayton, N. M., 80 Horoeka Street, Stokes Valley.
2UR—Lockie, H. A., 70 Cashmere Ave., Wellington.
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ZL-
      2US—Gawn, J. E., 44 Lonsdale Crescent, Wellington 3.
2UT—Etheridge, H. G., 18 Wellesley Rd., Napier.
2UU—Hannah, R. J., 806 Dufferin St., Hastings.
2UV—Kibble, A. R., Horokiwi Hill, Petone.
2UW—Naulls, R. D., 14 Miriona Grove, Paekakiriki.
2UX—Walton, R. M., 5 Norman Street, New Plymouth.
2UY—Parker, H. J., 15 Bush Street, Naenae.
      2UZ-
      2V2—Vaughan, D. L., Chaffey Cres., Titahi Bay, Wellington. 2V8—Nix, G. C. P., 146 South St., Feilding. 2VC—Austin, E. S., 4 Andrews Place, Wanganui. 2VD—Tideman, A. L., Main Rd., Paramata. 2VE—Hansen, G. H., 9 Sanders Avenue, Napier. 2VF—Chapman, D. J., 33 Union Street, Palmerston North. 2VG—McCarthy, A. C., 58 Beauchamp St., Linden.
      2VH—Upper Hutt Branch NZART (Trustee J. Meachen),
Upper Hutt Civic Buildings, Upper Hutt.
2VI—Manning, E. E., 77 Omata Road., New Plymouth.
      2VJ-Angelini, H. J., R.D. Pahiatua.
      2VK—Wallace, I. R., 28 Great North Road, Wanganui.

2VL—Gisborne Branch N.Z.A.R.T., (Trustee E. J. Kenny),
Club Rooms, A and P Showgrounds, Gisborne.

2VM—Birse, K. C., School of Signals, Waiouru Mil. Camp.
      2VO—Hayman, G. C., 73 Makora Rd., Masterton.
2VP—Cheshire, A. H., 5 Seddon St., Upper Hutt.
2VQ—Shaw, J. E., 92 Waeranga Road, Otaki.
2VR—Johnson, L. E. C., 45 Rawhiti Rd., Pukerua Bay.
      2VS—
2VT—Bennett, W. R., 12 Moore St., Wanganui.
2VU—Freeman, J. F., 4 Harbour Park Terrace, Wellington, 4.
      2VW—Gray, O. T., 16 Gonville Ave., Wanganui.
2VX—Dickson, S., 67 Mills Rd., Wellington.
2VY—Klein, B. J., 49 Milne Cres., Taita.
      2VZ—Eyles, J. R., 30 Surrey St., Richmond.
2WA—Wellington VHF Group (Trustee, V. A. Stagpoole),
23 Horokiwi Road, Newlands, Wellington.
       2WB-Wellington Branch NZART (Inc.), W. D. Gorman
                                     (Trustee), 140 Donald St., Karori, Wellington,
      W.3. (Portable).

2WC—Crabtree, W. D., 73 Nelson Crescent, Napier.

2WD—Deller, F. J. G., 5A Governor Road, Wellington.
       2WF-Chatfield, R. O., 20 Duncan Ter., Wellington, E.2.
      2WG—Nunns, H., 42 Norman Rd., Gisborne.
2WH—McAulay, A. W., 151 Townsend Rd., Miramar, Wel-
                                    lington.
      2WJ-Ross, J. B., Moncrieff Ave., Tahunanui, Nelson.
      2WK—Hattersley, S. G., 15 Rata St., Nelson.
2WL—Hurrell, L. W., 10 Norwich St., Wellington, N.2.
      2WM—Lagerstedt, E. C., 220 High St., Dannevirke.
2WN—Batchelar, R. C., 39 Sheffield St., Palmerston North.
2WO—Burnett, A. M. R., 77 Monro Street, Wellington 3.
      2WP—Ohakea Transmitting Club, RNZAF Base, Ohakea, (Trustee: A. G. F. Harding).
      2WO-
        2WR-Wakeford, B., "Appledore", Nelson Road, Gisborne.
     2WS—Thomson, W. J., 33 Donald McLean St., Newtown, Wellington, S.1.
2WU—Arnold, C. D., 50 Woodleigh Street, New Plymouth.
2WV—Rowe, J. B., 49 Bayly Road, New Plymouth.
      2WX-Day, D. G., 106 Cleveland Ter., Nelson.
      2WY-
      2WZ-Edwards, S. St. D., 17 Walter Road, Lowry Bay,
     Wellington.

2AAA—White, M. C., 117 Makora Rd., Masterton.

2AAB—Cole, G. H., 26 Wensley Rd., Richmond.
      2AAC-
     2AAD—Bartlett, L. R., 9 Waverley St., Gisborne.
2AAE—Kelling, A. R., 17 Pare St., Wainui Beach, Gisborne.
2AAF—Duncan, R. E., 107 Ironside Rd., Johnsonville.
2AAG—Barker, E. J., 12 Ashford Ave., Palmerston North.
      2AAH-Gibb, B. D., c/o. Himatangi Radio, P.B., Foxton.
     2AAJ—Barkman, D. B., 64 Wairere Road, Wanganui.
2AAK—Hubbard, J. A., 36 Queenswood Road, Levin.
2AAL—King, K. U., 505 Fenwick St., Hastings.
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2AAM-Wilson, I. J., 85 Cracroft St., Waitara.

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2AAN—Thompson, R. N., 1010 Gordon Rd., Hastings. 2AAO—Shackel, M. W. O., Longwood, R.D.1, Featherston.
2AAO—Shackel, M. W. O., Longwood, R.D.I., Featherston. 2AAP—Meek, P., 59 Alexander Avenue, Napier. 2AAQ—Bate, W. I., 22 Gilbert Street, Blenheim. 2AAR—Goodhue, T. J., 29 Emily St., Gisborne. 2AAS—McCutcheon, H. A., 351 High Street, Dannevirke. 2AAT—Mowat, K. H., 7 Fox Street, Wellington 4. 2AAU—Starck, A. J., 25D Smart Road, New Plymouth. 2AAV—Cooper, R. L., 33 Brooke Street, Waiouru (P.O. Box, 155, Tailsag)
 Box 158, Taihape). 2AAW—Berdebes, P. G., 3 Wood Street, Palmerston North.
 2AAX-Martin, L. H., 64 Glen Rd., Stokes Valley, Welling-
                               ton.
 2AAY—Turnbull, W. I., 5 Annandale Street, New Plymouth. 2AAZ—Grundy, C. G., 119 East Frederick St., Mayfair,
                              Hastings.
2ABA—Harris, W. V., Stortford Lodge, Hastings.
2ABB—Campbell, S. H., 28 Ashford Ave, Palmerston North.
2ABC—Deynzer, G. M., 37A Heretaunga St., Petone.
2ABD—Lowe, H. C., 12 Tasman Street, New Plymouth. 2ABE—Erwood, E., 190 Waimea Rd., Nelson. 2ABF—Foley, T. J., 115 Taradale Rd., Napier.
  2ABG-James, J. A., 6 Breakwater Road, Napier.
 2ABH-Chapman, A., 7 Raniera Street, New Plymouth
2ABI-
2ABJ—Napier Branch NZART (W. Forsyth, trustee),
NZART Headquarters, Latham Street, Napier.
2ABK—Jones, Mrs Y. F., 10 Christina Grove, Lower Hutt.
2ABI -
2ABM—Elvy, D. L., Flat 1, 231 Wilton Road, Wellington 5.
2ABN—Marchant, H. G., 32 Swiss Ave., Wanganui.
2ABO—Hughes, A. H., 117 Park Road, Palmerston North.
  2ABP-
2ABQ—Keenan, D. St. J., 13 Ruru Crescent, Heretaunga
Park, Silverstream.
2ABR—Parkinson, J. H., 509A Fitzroy Ave., Hastings. 2ABS—Trustrum, E. G., 160 Marine Parade, Napier. 2ABT—Turner, O. D., Tataramoa, Dannevirke. 2ABU—Brereton, W. D. A., Ngotimoti, Nelson. 2ABV—Cooper, P. A., Pukeora, Home for the Disabled,
                       Waipukurau.
2ABW—Steer, D. W., 205 Courtenay St., New Plymouth.
2ABX—Bishop, R. T., 32 Auckland Rd., Greenmeadows.
2ABY—Huggard, J. D., 15 Darnell Street, New Plymouth.
2ABZ—Moore, J. A. W., 6 Hillary Street, Tawa.
2ACA—Barnett, W. J., 68 Quebec Street, Nelson.
2ACB—Pengelly, A. P., 56 Wilberforce St., Wellington, E.5.
2ACC—Sutherland, J. M., 600 Pepper St., Hastings.
2ACD—Corric, R. D., Wiremu Road, R.D. 31, Opunake. 2ACE—Greene, R. P., 17 Gorge Rd. West, Ngaio, Welling-
                              ton.
2ACF—Stagpoole, V. M. Wellington.
                                        V. M., 23 Horokiwi Road, Newlands,
2ACG-Glassey, R. B., 422 Jackson St., Petone.
2ACH-Robertson, B. R., 537 Ruahine Street, Palmerston
                              North.
2ACJ—Watson, J. S., 24 Gardener Street, Levin.
2ACK—Brown, R. W. N., 9 Duke Street, Pahiatua.
2ACL—Larsen, G. A. J., 36 Cole St., Masterton.
2ACM-Gore, C., Roberts Line, Bunnythorpe. (P.O. Box 40.)
2ACO—Jeffs, D. E., 132 Hill Road, Belmont, Wellington. 2ACP—Brosnan, V. W., Wakarara, R.D.5, Waipawa.
2ACQ-
2ACV—Billing, D. B., 101 Rongotai Road, Kilbirnie, Wellington, E.3.
2ACS—Cheyne, G. A., 15 Hobson Street, Levin.
2ACT—Brown, J., Flat 5, Devon Street, Levin.
2ACU—Finlay, P. A., 154 Parkvale Rd., Wellington, W.3.
2ACV—Steel, J. R., 192 Coutts Street, Wellington 3.
2ACW—Townsend, V. C., 18 Savage Crescent, Palmerston North.
2ACX—Hart, F. M., 82 Oriel Avenue, Tawa.
2ACY—Johnson, L. V., 62 Abbott St., Gisborne.
2ACZ—Bickerstaff, R. R., 12 Enfield Rd., Napier.
2ADA—Anderson, J. K., 1 McKenzie Ave., Napier.
2ADB---
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2ADC-Weston, W. F., 35 Kummer Cres., Masterton.
   2ADD—Lund, O. M., 1 Cherry Grove, Strathmore, Wellington.
 Lington.

2ADE—Turner, A. L., 25 Bentinck Ave., Wellington 3.

2ADF—Barrett, D. W., 7 Victor St., Dannevirke.

2ADG—Grainger, J. G., 142A Waimea Rd., Nelson.

2ADH—Boyd, I. McL., 132 Wainuiomata Rd., Wainuiomata.

2ADI—Blackwood, R. L., 37 St. John's Tce., Tawa.

2ADI—Bliling, H. B., 8 Witako Street, New Plymouth.

2ADL—Gilbert, T. J., 5A Newbourne Crescent, Blenheim.

2ADM—Smith, I. G., Hill View, Guppy's Rd., Greenmeadows, Nopier.
  2ADN—Stuart, J. D., 11 Kipling St., Palmerston North. 2ADO—Mercer, K. J., 27 Leeds St., Palmerston North. 2ADP—Vile, M. E., 46 Ellesmere Avenue, Wellington 3. 2ADQ—
2ADQ—Separate J. E., 18 Haydon St., Palmerston North. 2ADS—Shearer, A. D., 100 Harper St., Wanganui. 2ADT—Brown, W. C., 9 Rawhiti St., Nelson. 2ADU—Renfrew, H. F., 12 Reynolds Road, Havelock North. 2ADV—Murroy, K. E. H., Albert St., Pahiatua. 2ADW—Lawrence, A. F., 9 Burn Street, Levin. 2ADW—Smith, I. M., 23 Johnston St., Foxton. 2ADY—Blaikie, J., 36 Parker Street, Blenheim. 2ADZ—Renner, W. G., C/o Post Office, Ormond. 2AFA—Lacey, A. R., Monrad St., Palmerston North. 2AFB—Burr, A. J., 25 Waiwera Place, New Plymouth. 2AFC—Burr, M. K., 414 Stokes Valley Rd., Stokes Valley. 2AFE—Walkington, C. R., 22A Ruahine Street, Paraparaumu. 2AFF—Pugh, A. G. E., 6 Smith Street, Paekakariki. 2AFF—Fing, M. J., 5 Mantell Street, Seatoun, Wellington. 2AFH—Hill, J., 35 Fleet St., Masterton.
   2AFH-Hill, J., 35 Fleet St., Masterton.
  2AFJ-Clark, F. R., Venice St., Martinborough.
  2AFK-Dunn, J. R., 82 Oriental Parade, Wellington.
  2AFL-Jordon. N., 18 Aurora St., Petone.
  2AFM-
 ZAFN—MacLean, A. K., Hukaroa Rd., Raetihi.
2AFO—Burney, R. J., 115 Kowhai St., Nae Nae.
2AFP—Wassilieff, C., 98 Church Street, Palmerston North.
2AFQ—Lawson, E. J., 22 Byron St., Upper Hutt.
2AFR—Ramsay, K. A., 63 Mein Street, Wellington.
2AFS—Chew, L. R., 14 Hursthouse St., New Plymouth.
 2AFT—Anderson, B. P., 431 Albert St., Palmerston North. 2AFU—Udy, H. A. F., R. D. 7, Pahiatua. 2AFV—Titahi Bay Branch NZART (Trustee, R. S. H. Morgan) Tireti Hall, Titahi Bay.
Morgan) Tireti Hall, Titahi Bay.

2AFW—Jones, B. N., 13 Taupata St., Castlecliff, Wanganui.

2AFX—Crane, G. S., 18 Glenamoy Crescent, Johnsonville.

2AFY—Smith, I. M., Hinerangi Rd., Hatuma, Waipukurau.

2AFZ—Studd, G. C., 48 Nuffield Ave., Napier.

2AGA—Warner, J. W., 22 Norman Road, Gisborne.

2AGB—Martelletti, G. P., 44 Kapuni Street, Manaia.

2AGC—Waldmann, K. J., 1 Rose Flats, Totara St, Trentham.

2AGE—Mouritsen, J., 14 Ashridge Road, Napier.

2AGF—Budd, W. G. J., 32 Paynter's Ave., Fitzroy, New Plymouth.

2AGG—Graham. S. C., 2 Drake Street, Feliding.
 2AGG—Graham, S. C., 2 Drake Street, Feilding.
2AGH—Marshall, A. W., 1203 Ada Street, Hastings.
2AGI—Giles, F. A., 1006 Sussex Street, Hastings
2AGJ—Nicol, L. W., Hill Road, Pauatahanui.
2AGK—Ferguson, J. R., 1235 Taita Drive., Lower Hutt.
  2AGM—Dannevirke Branch NZART, Cnr. Princess and Queen 
Streets, Dannevirke.
 2AGN—2AGN—Wadham, C. W., 195 Oxford St., Lower Hutt.
2AGP—Weir, D. G., 23 Hinau Grove, Wainuiomata.
2AGQ—O'Brien, P. M., Kereru Road, Days Bay, Eastbourne
2AGR—Williams, R. L., 15 Pinney Ave., Lower Hutt.
 2AGS-
 2AGT-Wright, J. M., 18 Treganna St, Castlecliff, Wanganui.
 2AGU—Steel, G. J., Cnr Arataki and Te Mata Roads, Havelock North.
2AGV—Cain, M. C., 83 Aro Street, Wellington 2.
2AGW—Clapham, H. B., Mulgrave St., Ashhurst.
2AGX—Hopkins, C. E. C., No. 2 R.D., Makairo, Pahiatua.
2AGY—Marr, A. H., Central Police Barracks, Wellington.
2AGZ—Grey, P. S., Havelock Rd., Havelock North.
2AHA—Wilkey, T. G., 13 Hale Street, Blenheim.
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2AHG—McCormick, J. D., 38 Puriri Street, Lower Hutt. 2AHH—Bint, T. E., 53 Trewavas Street, Motueka. 2AHI—Woodford, L. A., 161 Darlington Road, Wellington 3. 2AHJ—Ward, J. D., 992 Tremaine Ave., Palmerston North. 2AHK—Knofflock, T. C., 41 Scotland Street, Picton. ZAKC—Faulding, R. G., 5 Manuka St., Palmerston North. 2AKE—Watson, M. B., 25 Milne St., Marton. 2AKF—Peffers, W. F., 12E City View Road, Lower Hutt. 2AKG—McGonigal, J. W. R., "Braeburn", Patoka, Hawke's Bay. 2AKH—Hayward, W. B., 135 Washington Road, Nelson 2AKI—Armstrong, G. C., 5 Darlington Rd., Miramar, Wel-lington, E.4. 2AHL—Harris, F. C., 53 Friars Rd., Milson, Palmerston North. 2AHM-Smith, R. A., 121 Slacks Road, Palmerston North. 2AHN—Ashley, R. A., 36 Matai Road, Wellington 3.
2AHO—Owen, D. W., 12 Whirinaki St., Upper Hutt.
2AHP—Smith, L. W., 192 Coutts St., Kilbirnie, Wellington, E.3. 2AKJ-Smith, K. J., 5 Kahikatea Grove, Newlands, Wellington 4.

2AKK—Simpson, M. C., 8 Warwick Street, Nelson.

2AKL—Howard, W. S., Stoney Creek Rd., Bunnythorpe. 2AKL—Howard, W. S., Stoney Creek Rd., Bunnythorpe. 2AKM—
2AKM—
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2AKN—
2AKN—Silverstream College Radio Club (Trustee) J. P. Allardyce, St. Patrick's College, Silverstream.
2AKQ—Littleford, R. H., 4 Parnell Street, Lower Hutt. 2AKR—Roberts, E., 116 Kowhai Street, Lower Hutt. 2AKR—Taylor, D., 31 Ahuriri St., Wellington. 2AKU—Gordon, I. R., 106 Te Anau Rd., Hataitai, Wellington. 2AKV—Copeland, R. N., 11 Te Puni Grove, Upper Hutt. 2AKW—King, T. C., 70 Chelmsford Street, Wellington 4. 2AKX—Morris, E. C., 3 Peel Place, Wainui-O-Mata. 2AKY—Comber, C. M., 54 Reid Avenue, Hawera. 2AKZ—Barden, T. W. A., Harris St., Waitara. 2AHQ—Hyde, A. S., Julyan St., Shannon. 2AHR—Webb, P. J., 332 The Parade, Island Bay, Wellington 2. 2AHS—Dallas, S., 96 Te Anau Rd., Wellington, E.2.
2AHT—Frost, H. A., 77 Meeanee Road, Taradale.
2AHU—O'Hara, E. R., "Omega", Ngaumu Road, Masterton.
2AHV—Cook, J. A., 16 Rui St., Tahunanui, Nelson.
2AHV—Russell, S. J., 511 Grays Rd., Hostings. 2AHX—Greaney, E. C., 168 Waghorne Street, Napier. 2AHX—Howard, C. B., 19 Queen Street, Dannevirke. 2AHZ—Howell, L. I., 63 Marine Parade, Napier. 2AIA—Carter, L. J., 28 Rimu Street, Waikanae. 2AIB—Campbell, W. A., 212 Colombo Road, Masterton. ZAIC—Drogemuller, C. H., 25C Egmont Street, Wanganul. 2AID—Railton, G. H., 7 Konini Grove, Raumati. 2AIE—Grantham, T. C., 5 Camperdown Road, Wellington. 2AIF—Archer, R. W., 20 Snowden Ave, Palmerston North. 2AIG—Catt, G. D., 11 Taverner Street, Carterton. 2ALB-Wilkins, R. D., 5 Hartley Place, Palmerston North. 2ALC—Maxwell, H. J., 7 Rakeiora Grove., Korokoro. 2ALD—Donkin, E. N. R., 21 Te Aute Rd., Havelock North. 2ALE—Roberts, A. L., Miller Rd., Havelock North. 2AIH-2AII-2AII—Paris, E. G., 18 York St., Masterton.
2AIK—Duncan, A. M., 7 Highbury Crescent, Wellington, 5.
2AIL—Nelson, A. E., South Belt, Masterton.
2AIM—Muir, R. J., 16 Amberley Grove, Lower Hutt.
2AIN—James, L. A., 21 Adams Lane, Blenheim.
2AIO—Watkins, A. C., Upper Kawhatau, Mangaweka.
2AIP—Curry, R. G., 2 Hurman Street, Wellington 5. 2ALG—Fredericksen, C. A., 18 Champion Terrace, Nelson. 2ALH—Imlay, B. W., 46 Tilbury Street, Lower Hutt. 2ALI—Lacy, K. M., 33 Tawa Terrace, Tawa. 2ALJ—Fletcher, A. B., 121 Haitaitai Road, Wellington 3. 2ALK—Borlase, R. C., 289 Fitzherbert Avenue, Palmerston 2AIQ-Harvey, S. C., 802 Clive St., Hastings. 2ALL-Tompkins, A. W., Rangiwahia. 2AIR—Cromer, F. H., James St., Inglewood. 2AIS—Cromer, F. H., James St., Inglewood. 2AIT—No. 23 Nelson Squadron A.T.C. (Trustee, G. R. Stiles), Vanguard Street, Nelson. 2ALM-Lovegrove, P. J., St Vincent Street, Nelson. 2ALO-Forsyth, W., 3 Meeanee Quay, Westshore. 2AIU-Jepsen, N. M., R.D. 1, Peterson Road, Palmerston North.
2AIV—Mitchell, W. J., 52 Locking Street, Nelson.
2AIW—Sutherland, I. R., 61 Elizabeth Street, Blenheim. 2AIX-2AIX—
2AIY—Hunter, G. L., 1 King St., Nelson.
2AIZ—Wright, L. L., 21 Robert St., Newlands.
2AJA—Plum, B. F., 31 Kawai St., Nelson.
2AJB—Hodge, L. D., 23 Kent Cres., Palmerston North.
2AJC—Carroll, E. J., 13 Haig St., Lower Hutt.
2AJD—Dodds, J. F., Upper Moutere, Nelson,
2AJE—Carpenter, E. D., 27 Selwyn Road, Napier.
2AJF—Vernon, J. H., 130 Mairangi Rd., Wellington.
2AJG—Giblin, A. G., Wensley Rd., Richmond, Nelson.
2AJH— 2AJG—Giblin, A. G., Wensley Rd., Richinord, Reson.
2AJI—
2AJI—Isles, J. W., 55 Elbourne Street, Taradale.
2AJJ—France, A. R., 137 Lytton Road, Gisborne.
2AJK—Martin, E. O., 36 Poto Rd., Lower Hutt.
2AJL—Sutherland, D. C., Warrengate Rd., R.D., Wanganui.
2AJM—Cooksley, G., 4 Roy St., Palmerston North. lington. ZAJM—Cooksley, G., 4 Roy St., Palmerston North.

2AJN—Heinz, D. P., 56 Tukuka St., Nelson.

2AJO—Scott, A. D., 7 Kenmore St., New Plymouth.

2AJP—Vartha, I. R., 7 Collett St., Lower Hutt.

2AJQ—Compier, J. C., 35 Endcliffe Road, Gisborne.

2AJR—Teward, G. J., 12 Overtoun Ter., Wellington, E.2.

2AJS—Wanganui Boys' College Radio Club (Trustee: M. J.

2ALD—Polsylin, W., 5 Mediane Quay, Westshore.
2ALP—Paton, P. J., 98 Severn Street, Wellington 2.
2ALQ—Appleton, J. W., 17 Bone Cres., Hawera.
2ALR—Brennan, P. J., 39 Swansea Rd., Stratford.
2ALS—Morris, R. A., 16 Bristol Cres., Lower Hutt.
2ALT—Palmer, G. C. H., Ball Road, Alton, R.D. 2, Patea.
2ALU—Turnham, P. E., 31 Witako Street, Lower Hutt. 2ALW-Barnett, L. J., 4 Parkway, Wainuiomata. 2ALX—Tarrant, G. W., 124 Ironside Rd., Johnsonville. 2ALY—Walker, C. M., 39 Rueben Avenue, Wellington 2. 2ALZ—Healey, G. W. R., 78 Sidlaw St., Strathmore Park, Wellington. 2AMA—Millman, C. P., 126A Murital Road, Eastbourne. 2AMB—Chinery, P. R. J., 192 High Street, Eltham. 2AMC—Graham, E. W., 10 Somes Cres., Newlands, Wel-2AMD—Greenall, D. H., 1 Gloucester St., Upper Hutt. 2AME—Heath, C. A., 9 Patutu Grove, Upper Hutt. 2AMF-Baxendale, A. S., Flat C, 21 Walters Street, Lower 2AMG-Wensley, L. A., 7 Fry St., Motueka. 2AMH-Dew, E. E., 47 McHardy Street, Havelock North. 2AMI-Stewart, R. G., 105 Orangi Kaupapa Road, Wellington. 2AMJ—Johnson, J. F. C., 15 Byron Street, Upper Hutt. 2AMK—Vendt, G. R., 55 Waldegrave Street, Palmerston Nth. 2AML—Lord, C. L., 2 Ascot St., Palmerston North. 2AMM—Morris, S. J., 1 Sidlaw Street, Wellington. 2AMN—Maney, P. E., 6 Norfolk Street, Wainuiomata. 2AMO—McIver, P. D., 75 Brightwater Terrace, Palmerston North.

2AJJ—Wanganul Boys College Radio Club (Trustee; M. J. Beale), Ingestre Street, Wanganui.

2AJT—Hutt Valley Memorial Technical College Radio Club, (Trustee), A. F. Cresswell, Buick St., Petone 2AJU—Johnston, A. H., 195 Hampden Ter., Nelson. 2AJV—Small, I. R., 207 Tudor Ave., Hastings.

2AJW-Bradshaw, A. B., 12 Leona Way, Wellington 4

```
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                                                                                                             2APC—Burton, H., 34 Hathaway Avenue, Wellington, 5. 2APD—
                                                                                                             ZAPD—
ZAPE—Parnell, J. C., 87 Duncan Ter., Wellington.
2APF—Lusty, F. W., High St., Waitara.
2APG—Sutherland, N., 75 Weld St., Wellington.
2APH—Haisman, R. A., 27 Valley Road, Gisborne.
2API—Edwards, G. R. J., 4 Pascal St., Palmerston North.
2APJ—Vaughan, R. G., 7 Dale Road, Raumati South.
2APK—Campbell, E. P., 407 Frimley Place, Hastings.
2APL—Westwood, I. J., 47 Manawatu St., Palmerston North.
2APM—Parker, T. C., 5 Damian Grove, Lower, Hutt.
   2AMR—Feilding & Districts, Radio Club (Trustee J. R. Bould), 80 Kimbolton Road, Feilding.
 2AMS—Morganti, L. R., 9 Wentworth St., Wellington. 2AMT—Garmonsway, T. L., "Hiria", Rangiwaea, Taihape.
  2AMU-Ashe, D. A., 34 Wai-iti Cres., Lower Hutt.
 2AMV—Mudford, D. W., 13 Caxton Street, Onekawa, Napier. 2AMW—Hobman, R. V., 9 Holdsworth Ave., Trentham.
  2AMX-Wiggins, H., 178 Wadestown Rd., Wellington.
                                                                                                              2APM-Parker, T. C., 5 Damian Grove, Lower Hutt.
                                                                                                               2APN-
 2AMY-Berry, E. H. J., Clive Sq., Napier.
                                                                                                             2APP—Mellor, G. W., 16 King St., Upper Hutt.
2APP—Donkin, A. E., 12 Laura Ave., Brooklyn, Wellington.
  2AMZ-Humphris, G. J., 18 Horokiwi Road, Newlands, Wel-
                       lington.

    ZAPQ—Aydon, A., 93 Grove St., Nelson.
    ZAPR—Pope, T. R., 5 Montgomery Place, Lansdowne,

 2ANA—Neilson, A. K., 13 Matene Street, Otaki.
2ANB—Fenton, F. A., 27 Blake St., Waitara.
                                                                                                                             Masterton.
 2ANC—Watkins, W. T., 218 St. Aubyn St., New Plymouth. 2AND—Wallace, R. I., Fox St., Featherston.
                                                                                                             2APS-
                                                                                                               2APT-
                                                                                                             2APT—
2APU—Patea Branch, N.Z.A.R.T., (Trustee: F. H. Hoy),
Chester Street, Patea.
2APV—Jamieson, J. C., 31 David St., Westown, New Plymouth.
2APW—Vickerman, J. R., 9 John St., Titahi Bay.
2APX—O'Dwyer, M., 135 Guppy Road, Taradale.
2APY—Hartwig, G., 42 Mulgrave Street, Ashhurst.
 2ANE—Cooney, J. L., 53 Wainuiomata Rd., Wainuiomata.
2ANF—Martin, R. W., 105 Moana Ave., Nelson.
2ANG—Badman, R. G., 96 Kenmore Street, Wellington 4.
  2ANH-Hoskin, J. C., 30 Clearmont Crescent, New Ply-
                       mouth.
 2ANI-McLeod, S. A., 4 Trevelyan St., Onekawa ,Napier.
 2ANJ—Miller, R. E., 57 Lyndhurst Street, Palmerston Nth. 2ANK—Johnson, J. F., 90 McLeod St., Upper Hutt. 2ANL—McNeill, J. H., 23 Egmont Street, Patea.
                                                                                                             ZAQA—Allen, D. B., 12 High St., Waitora.
2AQB—Burridge, R. H., 470 Atawhai Drive, Nelson.
2AQC—Doyle, D., 47 Cashmere Avenue, Khandallah, Wel-
lington.
 2ANN—Butler, R. J., 1A Blake Street, Waitara.
2ANN—Rahotu Coastal Branch N.Z.A.R.T. (Inc.) (Trustee, c/o. L. C. Pentelow), Kina Rd., Opunake.
                                                                                                               2AQD-
                                                                                                               2AQE-
 2ANO—Sloane, J. P., 44 Duthie Street, Wellington, 5. 2ANP—Williamson, J. J., Waituna, No. 10 R.D., Feilding.
                                                                                                             2AQF—
2AQG—
2AQH—
  2ANQ-
                                                                                                             2AQI—Cheyne, J. A., 12 Aberdeen Avenue, Palmerston
 2ANR-
 2ANS-Martin, D. W., Avenue Rd., Greenmeadows.
                                                                                                             2AQJ—Mount St. Mary's Radio Club (Trustee: P. Devlin),
Mt. St. Mary's, Greenmeadows.
2AQK—Miller, H. R., 47 Dawson Street, Waiouru.
 2ANT-Bilderbeck, B. T., 131 Clyde St., Island Bay, Wel-
                      lington.
                                                                                                              2AQL—
2AOM—
 2ANU-Bennett, K. P., 6 Arundel Place, Wanganui.
                                                                                                             ZAQN—Heald, P. J., 11 Avion Terrace, Paraparaumu.
2AQO—Wison, K. A. (Mrs), 80 Wycliffe Street, Onekawa,
 2ANW-White, R. W., 10 Wairere Rd., Wanganui.
                                                                                                             Napier.
2AQP—Clouston, T. W., 28 Fox St., Opunake.
2AQQ
  2ANX-
 2ANY-Jury, A. V., Kirai, Makahu, via Stratford.
2ANZ—Barber, V. L., 36 Roslyn Rd., Napier.
2AOA—Scheffer, W. M., 95 Wellington Rd., Wainuiomata.
2AOB—Overton, F. H., 98 Strathmore Ave, Wellington 3.
2AOC—Hamilton, A. M. M., 35 Ngaio Road, Kelburn,
Wellington 5.
                                                                                                             2AQR-Crawley, R. J. C., 301 Charles Street, Hastings.
                                                                                                             2AQS-Nasmith, G. G., 10 Tawa St., Inglewood.
                                                                                                             2AQT-Gabb, K. J., 2 Beth St., Trentham.
                                                                                                               2AQU-Woertendyke, A. B., 139 Maxwell-Road, Blenheim.
                                                                                                             2AQV—Smith, R. E., 8 Dell Road, Raumati South.
2AQW—Lang, D. J. H., 6 McDonald St., Taita, Lower Hutt.
 2AOD—Catterall, J. A., Parkers Rd., Tahunanui, Nelson.
  2A0E---
                                                                                                             2AQX—MacArtney, R. A., 56 Glasgow Street, Wanganul. 2AQY—Olson, E. L., Flat 2, 377 Broadway South Stafford. 2AQZ—Edgecombe, C. J., Ngawhini Rd., Ararata R.D.,
 2AOF—Reardon, V. W., Autler Road, Manaia.
2AOG—Green, G. R., 16 Moeller St., Taradale.
 2AOH-Salmon, K. J., 35 Station Road, Marton.
                                                                                                                                  Hawera.
                                                                                                             2ARA—Buckley, R., 30 Sackville Street, New Plymouth.
  2AOI-Malkin, E., 1007 Konini Street, Hastings.
                                                                                                             2ARB-Davies, J., 19 Titoki St., Gisborne.
 2AOJ-
                                                                                                             2ARC—Christie, R. F., 259 Cambridge Street North, Levin. 2ARD—Schofield, D. T., 34 Kiwi Road, Raumati.
 2AOK-Ross, D. H., 73 Amohia St., Paraparaumu.
 2AOL-Robinson, J. R., 51 Queens Road, Nelson.
 2AOM-Crook, P. M., 6 Bale Place, Havelock North.
                                                                                                             ZARF—Thane, J. S., 6 Park Street, Palmerston North.
2ARG—Nelson Branch NZART (Inc.), J. A. Catterall (Trustee), Club Rooms, Maitai Valley Rd., Nelson.
 2AON—Harding, A. G. F., 54 Devon Crescent, Bulls. 2AOO—Fraser, J. G., 11 Karamea Cres., Palmerston North.
 2AOP-Mackintosh, A. B., 34 Marian Drive, Gisborne.
                                                                                                             2ARH—Haag, W. K., 7 Naughton Terrace, Wellington.
2ARI—Rushton, F., 7 Dodsons Valley, Nelson.
2ARJ—Stidolph, S. R., Weraroa, Levin.
2ARK—Wilkins, R. R., 919B Nelson Street North, Hastings.
 2AOQ-Moodie, L. S., 9 Upland Road, Wellington, 5.
 2AOR-Harris, G. S., 160 Park Rd., Palmerston North.
 2AOS-
 2AOT-Graham, P. A., 10 Morse Street, Napier.
                                                                                                             2ARM—Peel, J. S., 2 May Ave., Napier.
2ARN—Stewart, G. D., 37 Kandy Crescent, Simla Park,
Ngaio.
 2AOU-Marlborough Branch NZART (Inc.) (Trustee, W. 1.
                Bates), 35 Dillon Street, Blenheim.
 2AOV-Morrison, I. M., 54 Delhi Crescent, Wellington 4.
                                                                                                              2ARO-
  2AOW-Purvis, R. H., 3/6 Terrace Gardens, Wellington 1.
                                                                                                             2ARP—Collins, R. J., 19 Ashford St., Wainuiomata.
2ARQ—Kuranui College Radio Club (Trustee) D.
Claments, Greytown.
2AOX—Belt, R. D., 20 Medway Street, Island Bay, Wellington.
                                                                                                            2ARR—Watson, I. B., 15 Bells Road, Linton Camp. 2ARS—
2AOY-Robertson, J. G., 21 Liverpool Street, Levin.
2AOZ-Davidson, W. E., No. 10 R.D., Palmerston North.
                                                                                                            2ART—McQuinlan, T., 6 Whanake St., Tiahi Bay.
2ARU—Hawke, M. A. (Miss), 19 Roosevelt Street, Levin.
2ARV—Black, R. C., 10 Tainui St., Stoke, Nelson.
2APA-Ekdahl, C. D., 55 Camberwell R.D., Hawera.
2APB-
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ZL-
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ZL-2ARW—Williams, P. R., 15 Pinny Avenue, Lower Hutt. 2ARX—Pomfret-Brown, G. E., 16 Derby St., Stoke, Nelson. 2ARY—Kenealy, T. W., 61 Seaview Rd., Paremata. 2ARZ—Collins, J. L., 473 Stokes Valley Road, Stokes Valley. 2ASA—Sainsbury, J. R. D., 44 Warwick St, Wellington 5. 2ASB—Anderson, N. H., 108 Mt View Road, Wanganui. 2AUN—Hume, S. T., 9 Vennell Street, Wellington 2. 2AUO—Bould, J. R., 16 Carthew Street, Fielding. 2AUP—Baker, P. N., 14 John St., Titahi Bay, Wellington. 2AUQ—Bence, R. E., 53 Holdsworth Avenue, Upper Hutt. 2AUR—Wallis, G. A., 23 Bruce Avenue, Wellington 2.
2AUS—Stewart, B. E., 37 Quick Avenue, Wanganui.
2AUT—Morton, L. W., Main Road, Akatarawa.
2AUU—Norman, A. R., 18 Rossiter Ave., Lower Hutt.
2AUV—Rockell, J. E., 22 Hinau St., Linden. 2ASC—Denton, R. J., 17 Rangiora Ter., Tahunanui, Nelson. 2ASD—Darby, A. R., 63 Plateau Road, Te Marau, Upper Hutt. 2AUW—Nash, A. L. J., 27 Kitchener Ter., Raroa, Johnson-ville. 2ASE—Williams, R. B., 77 Coast Rd., Wainulomata. 2ASF—Fogerty, S. F., Douglas Road, Motueka. 2ASG—Waterall, T. H., 26 William St., Hataitai, Wellington, E.2. 2AUX—Sellen, F. T., 5 Bay View Road, Napier. 2AUY—Murphy, N. J., Flat 4, 27 Beach Rd., Paekakariki. 2AUZ—Blair, R. L., 12 Cleland St., Palmerston North. 2ASH—Clark, B. S., 359 Muratai Road, Eastbourne. 2ASI—Law, A., 134 Brougham Street, Wellington 1. 2ASJ—Shepherd, E. R., 203 Park Road South, Hastings. 2AVB-Hargreaves, A. P., 87 Bridge St., Eltham. 2AVC-Wickens, J. R., 9 Fleet St., Masterton. 2ASK-2ASL-Leitch, J. H., 91 Kent Street, Carterton. 2AVE—Fittis, A. H., 98 Muller Rd., Blenheim. 2AVF—Gibbs, L. V., Makara Radio, Private Bag, Karori. 2ASM-2ASN—Soughtton, R. G., 29 Moore Street, Featherston. 2ASO—Sewell, R. J., 63 Hair Street, Wainulomata. 2AVG-2AVH-2ASP—Colquhoun, T. R., 39 Melrose St., Island Bay, Wellington.
2ASQ—Hudson, D. S., 296 Stokes Valley Road, Stokes Valley.
2ASR—Gill, A. H., Rowes Road, Havelock North. 2AVI—Anderson, E. S., 14 Seaview Crescent, Picton. 2AVJ—Bowie, C. T. H., 17 Coates St., Linden. 2AVK—Kane, D., 11 Bay St., Petone. 2AVL-Luscombe, G. W., Main Rd., Waiouru. 2AVM-Morris, R. H. C., 169 Cockayne Road, Wellington 4. 2AST-Groombridge, J. E., 15 Oakleigh St., Lower Hutt. 2AVN-2AV0--2ASU—Hickman, J. R., Flat 1, 22 Maple Grove, Wellington 2. 2AVP—Roylands, D. M., Landsroy Poultry Farm, Ohariu Valley, Johnsonville. 2AVQ—Dement, F. W. H., 162 Bartholemew Road, Levin. 2ASV—Lynneberg, R., 8 John St., Titahi Bay, Wellington. 2ASW—Avery, G. S., Camerons Line, Feilding. 2ASX—Quinney, W. F. G., 407 Nottingly Road, Hastings. 2ASX—Currie, R. G., 75 Hair St., Wainuiomata. 2ASZ—Roatz, H. E., 114 Kowhai Street, Naenae. 2ATA—Martin, C. J., 205 Park Road North, Hastings. 2ATB—Blackwell, F. N., 103 Kenmore St., Newlands. 2ATC—Watkins, J. L., Mangaweka. 2ATD—Kent, R. C. H., 9 Julian Street, Blenheim. 2ATE— 2ATF-Knox, C. P., 7 Strathspey, Martinborough. 2ATG-2ATH—Morgan, I., 24 Poole Cres., Wainui-O-Mata. 2ATI—Weeks, B., 4 Oriel Avenue, Tawa. 2ATJ—Trye, M., 12 Aubrey Street, New Plymouth. 2ATJ—Trye, M., 12 Aubrey Street, New Plymouth.
2ATK—Williams, V. V. H. (Mrs), Atkins Road, Patutahi
(P.O. Box 78).
2ATL—Williams, C. M., Atkins Rd, Patutahi (P.O. Box 78).
2ATM—Aplin, E. L., 16 Kaka Street, Masterton.
2ATN—Casey, S. F., 45 Ames Street, Paekakariki.
2ATO—Oborn, L. E., 91 Norton Park Grove, Lower Hutt..
2ATP—Maynard, K. F., 327 Willis St., Wellington. . 21 Squadron Air Training Corps Radio Club (Trustee W. B. French), Cornwall Place, Masterton. 2ATQ-No. 2AWJ-2ATR-Edmundson, E. D., 5 Telford Ter., Oriental Bay, Wel-2AWKlington. 2ATS—Carter, J. A. (Miss), 41 Hyde Street, Wainuiomata. 2ATT—Thompson, A. J., 37 Gladstone St., Feilding. 2AWN-Lewis, L. D., Allen Ter., Linden. 2ATU-Meeking, L., 32 Poole St., Feilding. 2ATV-Clench, H. J., 27 William St., Petone. 2ATW-Lang, W. J., 138 Buick Cres., Palmerston North. 2ATX-Haskell, E. H. E., 11 Weka Place Masterton. 2ATY-2ATZ-Shortall, J. P., 19 Ferguson Street, South Bayview, Napier. 2AUA---Wilson, R. W., 15 North Esk Street, Nelson. 2AWU-2AWV-2AUB-ZAUD—Keegan, R. J., 19 Galway Avenue, Palmerston North. 2AUD—Gray, I. T., 5 Andrew Street, Blenheim. 2AUE—King, A. M., 210 Cuba Street, Wellington. Plymouth. 2AUF Means, C. B., Milners Line, Glen Oroua, R.D.3, 2AWY-Williams, Palmerston North. North. 2AUG-Farquharson, W. L., 1056 High St., Wingate, Lower 2AWZ-Carrell, J., 722 Ngaio St., Hastings. Hutt.
2AUH—Pool, B. L., 9 Rembrandt Avenue, Linden.
2AUI—Rowlands, R. E., 159 Hanson Street, Wellington, 2. 2AUJ—Catchpole, D., 81 Seatoun Heights Road, Wellington 3. 2AUK-Jones, P. M., 6 Rosendale Avenue, New Plymouth. 2AUL—Bird, J. W., 131 Whites Line East, Lower Hutt. 2AUM—Shrimpton, H. N., 89 Green Street, Tahunanui.

2AVR—Dinnie, J. G., 12 Burrows Avenue, Karori, Wellington, 5. 2AVS-Heath, B. O., Moores Valley Rd., Wainuiomata. 2AVV—Tender, B. C., Mooles Valley Rd, Valletands. 2AVT—Tremear, K. D., 12A Thynne St., Foxton. 2AVU—England, S. J., 3 Akatea St., Wellington. 2AVV—Hewitt, I. R., Mangamaire, Pahiatua. 2AVW—Carter, J., 137 Moohan Street, Wainulomata. 2AVX—Lepper, R. E., 26 Kimbolton Road, Feilding. 2AVY—Owen, M. L., P.O. Box 17048, Karori. 2AVZ—Freyberg High School Radio Club, (Trustee P. W. French), Freyberg Street, Palmerston North. 2AWA—Farquhar, W. E., 17 Stansell Ave., Nelson. 2AWB—Craigie, C. J., 45 Gillespies Road, Upper Hutt. 2AWC—Crocker, T. W., 57 Maratahu Street, New Plymouth. 2AWD—Frost, R. J., 60 Juliet Street, Stratford. 2AWE—Peters, D. E., 1A Bell Road, Linton Camp. ZAWF—Alexander, D. G., 34 Tennyson St., Petone. 2AWG-Roberts, J. C., 132 Brooklands Rd., New Plymouth. 2AWH-Brasnan, D. C., 45 Lismore Street, New Plymouth. 2AWI-Washer, J. F., 15A Beach Street, New Plymouth. 2AWL-Munro, R. G., 5 Caughley Crescent, Waiouru. 2AWM-MacDonald, K. A., 26 Kashmir Avenue, Upper Hutt. 2AWO-Campin, J. W., 24 Clarence Cox Avenue, Napier. 2AWP—Nelson, M. H., Main Rd., Mahina Bay, Eastbourne. 2AWQ—Moir, D., 5 Harpham St., Taradale. 2AWR—Hunt, O. D., 13 Gloucester St., Wanganui. 2AWS—Sayers, P. A., 97 Happy Valley Road, Ohiro Bay, Wellington. 2AWT-Hopwood, F. B., 109 Park Rd., Palmerston North. 2AWW-Winter, A. W., Grey Street, Normanby. 2AWX-Wills, R. E., 30 Birdwood Avenue (Box 515), New D. M., 28 Highbury Ave., Palmerston 2AXA-Beale, M. J., 183 Great North Road, Wanganui. 2AXB—Crawley, D. R. K., Campbell Road, Brunswick, Wanganui. 2AXC-Ragan, J. H., 6 Kenmore St., Newlands. 2AXD— 2AXE—Phibbs, I. D., 8 Puriri Crescent, Masterton. 2AXF—Widmer, J. B., Tikorangi.

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2AXG—Young, W. D. D., 20 Rexwood Street, Carterton. 2AXH—Hanford, R. A., Marybank Rd., Wanganui. 2AXI—Woodgyer, M. G., 710 Western Hutt Road, Manor Park, Lower Hutt.
 2AXK-Pomana, H., Pukeora Home for Disabled, Waipuku-
 2AXL-Harvey, P. R., 74 Collier Ave., Wellington.
 2AXM—Wilkins, S. J., 88 McLeod Street, Upper Hutt. 2AXN—Crane, R. G., 101 Anzac Parade, Wanganui.
 2AXO—Wright, D. N., 48 Kinmore St., Newlands.
2AXP—Lipinski, V. J., Phillip St., Carterton.
2AXQ—Rangitikei College Radio Club, (Trustee, W. J. G. Fisher), Bredins Line, Marton.
 2AXX—Sneddon, J., 10 Cornwall Street, Masterton.
2AXT—Woodruff, L. S. G., 1 Karaka Street, Palmerston Nth.
2AXU—Allen, R., 57 Dimock Street, Titahi Bay.
2AXV—Hulston, J. R., 7 Earlston Grove, Lower Hutt.
  2AXR-
 2AXX—Radio Club, New Plymouth Boys' High School, New Plymouth.
 2AXY-Davenport, J. A., 17 Sunny Grove, Wainuiomata.
  2AXZ—
2AYA—
2AYB—Fisher, W. G., 20 Hutchison Crescent, Wanganui 2AYC—Richards, H. J., 5 Meachen Cres., Blenheim. 2AYD—Barker, B. A., Waitahora, Dannevirke. 2AYE—Wastney, R. J., 177 Quebec Rd., Nelson. 2AYF—Amies, B. W., 17 Bracken Street, Petone.
 2AYH—Simpson, A. R., 2 Milmoe Street, Hawera.
2AYI—Glover, D. R., Valley Rd., Gisborne.
 2AYJ-Visser, A., 72 McLeod St., Upper Hutt.
2AYK-Kelly, R. W., 103 Waihi Road, Hawera.
2AYL—Anderson, R. S., 22 Tilbury Street, Lower Hutt.
2AYM—Scholefield, C. O., Spring Grove R.D., Wakefield.
2AYN—Patchett, J. P., 48 Glen Road, Raumati.
2AYO-Hurley, G., 8 Pritchard Street, Wellington.
2AYP—
2AYP—Odell, M. S., 4 Dillon Bell Road, Gisborne.
2AYR—Kingston, B. L., 91 Inkerman St., Renwick, Blen-
2AYS—Burton, H. C., 34 Stewart St., Aramoho, Wanganui. 2AYT—Bolton, P. E., 25 Poole Crescent, Wainuiomata. 2AYU—Bruijne, W., 3 Forth Place, Paremata. 2AYV—Struthers, G. J., 18 Adams Lane, Blenheim.
2AYW—Thwaites, C. L., 4 Brian Bary St., Blenheim.
2AYX—Pohl, K. P., 58 Norton Park Avenue, Lower Hutt.
2AYY—Waghorn, T. J., 8 Rueben Grove, Lower Hutt.
2AYZ—Cousins, W. G., 1 Clinton Way, Wellington 2.
2AZA—Borrell, D., 5 Taupo Cres., Plimmerton.
2AZB—McKay, D. K., 28 Eltham Rd., Blenheim.
2AZC—Dunn, D. A., 401 Lascelles St., Hastings.
2AZD—Bruce, M. G. G., Flat 4, Christie Crescent, Havelock North.
2AZE-Stretch, F., 84 Wither Road, Blenheim.
 2AZF-
2AZG-Fitton, E. L., 57 Keith Street, Wanganui
2AZH-Watson, G. J., 51 Waverley St., Waipawa.
2AZI—
2AZI—Cole, A. G., 66 Ponsonby Road, Karori, Wellington.
2AZK—Lankshear, B. R., 222 Howick Road, Blenheim.
2AZL—Belt, G. J., 41 Nevay Rd., Miramar, Wellington.
 2AZM-
2AZN-Walker, D. G., 60 Stephen Street, Johnsonville.
2AZO—Oddie, A. D., 5 Greenhill Road, Nelson.
2AZP—Pinny, H. G., 18 Coates St., Linden, Tawa.
2AZQ-Sutherland, H. B., 96A Princes Street, Nelson.
2AZT-Thomas, G. D., 5 York Place, Porirua, Wellington.
2AZU-Ellison, C. L., 46 Hislop Avenue, Napier.
2AZV—Stephen, J. M., 6 Leghorne Lane, Havelock North.
2AZW-
 2AZX-Orange, L. R., 17 Wakefield Street, Waiouru.
2AZY-
2AZZ—Riverside Radio Club, (Trustees Mr A. J. Little and
Mr P. Weston), Epuni Boys Home, 441 Riverside
Drive, Lower Hutt.
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2BAA-Sinclair, M. W., P.O. Box 9239, Courtney Place,
                      Wellington.
Wellington.

2BAB—Hammond, A. L., 2 Doris Street, Richmond.

2BAC—Osborne, T. G., 46 Stewart Drive, Wellington 4.

2BAD—Bennett, W. A., Hangaroa, Gisborne.

2BAE—Searing, J. J., 88 California Drive, Upper Hutt.

2BAF—Donoghue, C. J., 9 Highfield Place, Levin.

2BAG—Martin, P. J., Palmer Road, R.D. 29, Kaponga.

2BAH—Mace, R. R., Main South Road, R.D. 4, Omata,

New Plymouth.

2BAI—Marett, J. H., 42 Wilford Street, Upper Hutt.

2BAJ—Blackley, D., 3 Freeling St., Island Bay ,Wellington.

2BAK—
   2BAK-
 2BAL—Laing A., J., 138 Liverpool Streeet, Linden.
2BAM—Durdle, B. M., 5 Oswald Crescent, Wellington 4.
2BAN—Davison, G., Flat 6, 454 Church Street, Palmerston
 North.

2BAO—Jenkins, M. D., 18 Napier Crescent, Napier.

2BAP—McDonald, R. N., 17 Brougham Street, Wellington.

2BAQ—Groenstein, W. I., 540 Ruahine St, Palmerston North.
 2BAR—
2BAS—Sutcliffe, D. B. G., 1017 Aberdeen Road, Gisborne.
2BAT—Nunn, P. D., 8 Lawrence Road, Napier.
2BAT—William Grave, Wellington.
 2BAU-Hoy, R. W., 2 Thurleigh Grove, Wellington.
 2BAV-Colegrave, A. H., 9 Iranui Road, Gisborne.
  2BAW—Wanganui Branch NZART, (Trustees B. E. Stewart, F. R. Withers), 2 Peat Street Wanganui.
 2BAX—Stevens, E. F., 30 McKinley Crescent, Wellington. 2BAY—Watson, C. D., Spring Grove, R.D. 1, Wakefield. 2BAZ—Forrester, I. J., 558 Fergusson Drive, Trentham.
 2BBA-
 2BBB-Hearn, W. J., 125 Renown Rd., Raumati.
 2BBC—Beckett, E. M., 10 Sydenham St., Northland, Well-
lington.
 2BBD-Urwin, H. C. R., 14 Brook Street, Nelson.
 2BBE-McMillan, L. W. M., 84 Wellington Road, Wainuio-
                   mata.
2BBF—Byrnand, J. L., 125 Bell Street, Wanganui,
2BBG—Withers, F. R., Papaiti, Aramoho, Wanganui,
2BBH—Wilson, G. H., Lyell Rd., Gisborne.
2BBI—Melville, R. A., 10 Raine Street, Wellington 5.
2BBJ—Corney, A. C., 43 Clutha Avenue, Wellington 4.
 2BBK-Duke, E. M., 11 Edward St., Richmond.
2BBL—Langford, A. K., 562 Ruahine Street, Palmerston Nth. 2BBM—MacGibbon, R. A., 45 Manawatu St., Palmerston North.
2BBN-
 2BBO-Lealand, T. P., 16A Hunter St., Hawera.
ZBBP—Norgate, M. H., 14 Gordon Street, New Plymouth.

2BBQ—Ansley, B. K., House 7, Makara Radio Settlement,
Makara, Wellington.
2BBR—Minchin, H. E., 30 Dixon Avenue, Hawera.
2BBS—Doig, A. M., 13 Valentine Street, Lower Hutt.
2BBT—Grove, K. E., 81 Tama St., Lower Hutt.
   2BBU-Pearmain, C. E., 47 Alton Street, Nelson.
2BBV—Gorst, T. H., 2 Belmont Street, Havelock North. 2BBW—Byles, T. W., 4 Somerset Cres., Palmerston North.
2BBX—Buchanan, T. M., 9 Manchester St., Petone.
2BBY—Bray, H. J. J., 7 Alexandra Rd., Wellington, C.4.
2BBZ—Dickson, L. P., Piko Rd., Okoki, Urenui.
2BCA—Scott, D. L., 10 Waimea Road, Nelson.
2BCB—Tunnicliffe, C. G., 11 Kingswood St., Palmerston
                           North.
2BCC—Chang, A. G. M., 3 Maple Grove, Maungaraki, Lower
Hutt.
2BCD—Dean, F. R. J., 2 Coates St., Linden.
2BCE—Pye, J. F., 7 Bryant St., Palmerston North.
2BCF—Henderson, J. M., 1 Beetham Street, Masterton.
 2BCG-Jackson, J., 19 Grey St., Motueka.
2BCH—Passuello, M. J. D., 37 Coromandel St, Wellington 2. 2BCH—Brownlie, J. A., Mangaroa Station, Tokomaru Bay. 2BCJ—Lewis, L. T., 50 Chalmers Road, Gisborne. 2BCK—White, M. G., Mangawhero R.D., Eltham. 2BCL—Dagg, A. H., 77 Barker Road, Marewa, Napier.
2BCM—Hargreaves, D. Wellington 4.
                                                  P., 28 Huntleigh Park Way,
2BCN—Moller, L. J., 36 Roys Road, Plimmerton. Wellington.
2BCO—Gooch, G. M., Mangatarata Road, Waipukurau.
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2BCP-Sim, D. S., Flemington, R.D., Waipukurau.
2BCR-King, F. B., 65 Commercial Street, Takaka.
2BCS-Hooker, B. C. A., 502 West Lyndon Rd., Hastings.
2BCT-Clements, D. J., Main Rd., Greytown.
2BCU—Te Hapara Air Scouts Radio Club (Trustee, L. T. Lewis), 30 Chalmers Road, Gisborne.
2BCV-Mangnall, A. R., 31 Wainui Rd., Woburn, Lower
                Hutt.
2BCW-Kerr, M. J. B., 50A Chelmsford St, Wellington 4
2BCX-Luxford, J. W., No. 4 R.D., Waituna West, Feilding.
 2BCY-Wallen, E. J., Bilhams Road, Patutahi.
2BDA-Angus, R. H. R., 89 Taradale Road, Napier.
2BDB-Herbert, J. W., 91 Holdsworth Ave., Upper Hutt.
2BDC—Benge, C. W., 35 Mt. View Road, Wanganui. 2BDD—Smith, C. B., 152 Marine Parade, Napier.
2BDE—Gisborne Boys' High School Radio Club (Trustee, W
G. Renner), Roebuck Rd., Gisborne.
2BDF—Garratt, H., 172 Knights Road, Lower Hutt.
 2BDG-
2BDH—Hulse, J. C., Redwoods Valley, R.D., Richmond. 2BDI—Grenfell, N. W., 112 Fitzgerald St., Featherston.
2BDK-Marsh, W. J., 13 Andrews Drive, Waiouru.
2BDL-McLachlan, R. M., 95 Calcutta Street, Wellington 4.
2BDM-Mote, B. J., Alexander St., Meeanee.
2BDN—New Plymouth Branch NZART, (Trustee) W. F. Watkins, Marsland Hill, New Plymouth.
2BDO-Inglewood High School Radio Club, (Trustee) F. H.
            Cramer, 34 James Street, Inglewood.
2BDQ—Johnson, W. J., A59 Hospital Block, Upper Hutt.
2BDR—Lehrke, W. H., 47 Smithfield Rd., Wanganui.
2BDS-Corbett, A. A., 24 Richmond Avenue, Palmerston
            North.
2BDT-Robotham, R. W., 30 East St., Palmerston North.
 2BDU-Pickett, B. T., 9 Selby Place, Palmerston North.
2BDW-Wilde, C. J., 401 Main Road, Stoke.
2BDX-Hanson, L. J., 8 Montgomery Ter., Palmerston North.
2BDY-Tait, M. A., 1 Churchill Drive, Featherston.
2BDZ—Wairarapa Branch NZART (Trustee, J. A. Bick-nell), Kempton Line, Greytown.
2BEA-Oliver, R. D., 109 Wise St., Wainuiomata.
 2BEB-
2BEC-Studdert, W., 90 Fairlie Ter., Kelburn, Wellington.
2BED-Dunkley, G. J. H., 17A Blue Mountains Road, Silver-
2BEF—Fitzgerald, D. I., 23 Jillett Street, Titahi Bay.
2BEG—Cropp, B. A., 7 Blue Mountains Road, Silverstream.
2BEI—Hastings Branch NZART (Trustee, J. Carrell), C/D and NZART HQ, Nelson Park, Caroline Road,
                Hastings.
2BEJ—Johnson, H. A., 51 Tanner Street, Havelock North. 2BEK—Biggar, R. G., 33 Chester Street, Levin.
2BEL-Gichard, K. G., 279 Tukapa Street, New Plymouth.
2BEM—Mackrell, T. F., Arero, Tolaga Bay.
2BEN—Myers, H. H., 7 Wakely Rd, Newlands, Wellington, 4.
2BEO-O'Hagan, M. G., Catholic Presbytery, Meeanee Road,
         Taradale.
2BEP--Whiteford, P. C., 54 Aurora Terrace, Wellington.
2BEQ—Newburn, N. J., 94 The Ridgeway, Stoke, Nelson.
2BER—Valois, D. A., 3 Motu Road, Paekakariki.
2BES—Catt, D. V., 16 Wyndham Street, Carterton.
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2BET-Toomath, B. E., 24 Nile Street, Lower Hutt.

Wanganui.

2BEU-McLennan, R., Parakino School, Private Bag,

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2BEW-Brownie, R. S., 34 Shakespeare Ave., Upper Hutt.
     2BEX-Ramsay, D. A., Foxhill, R. D. 1, Wakefield.
     2BEY-Wilkins, A. G. J., 6 Woodland Road, Johnsonville.
     2BEZ-
     2BFA-Broderick, R. M. (Mrs), 13 Orchard Street, Stoke.
     2BFB-Wilde, R. H., 179 Cook Street, Palmerston North.
     2BFC-Cattermole, B. L., 120 Tasman Street, Wellington 2.
     2BFD-
      2BFE-
      2BEF-Fitzgerald, D. I., 23 Jillett Street, Titahi Bay.
     2BFG-
     2BFH-
     2BFI-Young, D. E., 97 Rosetta Road, Raumati South.
     2BFJ-Ireland, P. J., 45 George Street, Levin.
     2BFK-Potroz, K. N.,36 Liverpool Crescent, Hastings.
     2BFL—Sullivan, E. P. A., "Little Merton", York Bay, Wellington.
     2BFM-Thomas, K. F., 24 Upjohn Street, New Plymouth.
     2BFN-McKenzie, R. D., 18 Tyndall Street, Pahiatua.
     2BFO-George, A. G., 30B Dundas Street, Wellington.
     2BFP-Kinge, G. H., 62 Oak Street, Gisborne.
     2BFQ—Palmerston North Boys' High School Radio Club—
Trustee, R. L. Blair, Featherston Street, Palmer-
               ston North.
     2BFR-Wiggins, H. N., 23 Slacks Street, Palmerston North.
     2BFS-Simmonds, A. F., N.Z.B.C. House, No. 5 Private Bag,
             Titahi Bay.
     2BFT—Cavanagh, B. J., 22 Edwardes Street, Napier. 2BFU—Lacey, G., 27 Bledisloe Street, Masterton.
     2BFV-Leonard, M. L., 2 Barton Avenue, Napier.
     2BFW-Peters, R. E. F., 50 Beazley Avenue, Wellington 4.
     2BFX—Pukerua Bay Venturer Scouts Radio Club (Trustee:
L. E. C. Johnson), Atlantic Scout Hall, Puke-
                   rua Bay.
     2BFY-Heffernan, W. H., C/o Blue Heron Hotel, Porirua.
     2BFZ-Barnett, C. J., 37 McPharland Street, Upper Hutt.
     2BGB-Harvey, D. R., 3 Cole Grove, Upper Hutt.
     2BGC-Allen, N. G., 94 Huatoki St., New Plymouth.
      2BGD-York, R. W. F., 69A George Street, Blenheim.
     2BGE—Boyle, L., 37 Lewis Ave., Wanganui.
2BGF—Toms, R. V., 127 Long Melford Rd., Palmerston
North.
     2BGG-McConnachie, M. J., C/o. N.Z. Electricity Dept.,
     Tuai. 2BGH—Bridge, G. H., 93 Calcutta Street, Wellington 4.
     2BGJ-Ashton, G. W., 65 Roys Road, Plimmerton.
     2BGK-England, V. I. (Mrs), 29 Horokiwi Road, Newlands,
                   Wellington 4.
     2BGL—Currey, C. F., 31 Capella Flats, Waiwhetu, Lower Hutt.
     2BGM-
     2BGN---
     2BGO-Grove, P. E., 7 Battersea Place, Palmerston North.
     2BGP-Griffith, K. C., 11 Hobart Street, Miramar, Welling-
     2BGQ-Buckton, G. S., 93 Middle Renwick Road, Blenheim.
     2BGR-McEwen, E. J., 29 Short Street, Masterton.
     2BGS-Benson, C. C., 54 Roberts Road, Masterton.
     2BGT-Bennett, P., 19 Wainui Street, Nelson.
2BGU—Clemens, W. E., 5 Lowry Street, Richmond.
     2BGV-Simpson, W. N., 23 High Street North, Motueka.
     2BGW-Kisby, M., 33 Woodhouse Avenue, Wellington 5.
     2BGX-The School of Signals Radio Club (Trustee: Sgt.
               L. R. Orange), Waiouru Military Camp.
     2BGY-Bennett, A. J., 38 Paisley Street, Palmerston North.
     2BGZ-McLean, G. M., 115 Marine Parade, Eastbourne.
     2BHA---
     2BHB—Baker, R. G. H., 8 John Street, Blenheim. 2BHC—Griffin, R. J., 309 Nayland Road, Stoke.
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Street, Hawera.
 2BHF-Meachen, J. A., 68 Golders Road, Upper Hutt.
2BHG—Lawson, J. R., Opuri, R.D.1, Rai Valley.
2BHH—Burnham, E. D., 15 Tawa Street, Levin.
 2BHI-Orams, K. J., 13 Eagle Street, Wellington.
  2BHJ-Christiansen, W. F., 76 Randwick Crescent, Moera.
2BHK-Johnson, D. H., 85 Holdsworth Avenue, Trentham.
2BHL-Fowler, R. L., Dehra Doon Road, Riwaka.
                                                                                 2B III--
 2BHM-Matthews, E. F., Moeawatea, via Waverley.
                                                                                 2BJV--
 2BHN-Allardyce, J. P. G., St. Patrick's College, Silver-
                stream.
                                                                                 2BJX-
2BHO-Henderson, R. L., Waiohiki.
2BHP-Walker, J., 4 St. Ronans Avenue, Lower Hutt.
                                                                                 2BJ7-
2BHQ-Magon, T. E., C/o HMNZS Irirangi, Waiouru.
                                                                                 2BKA-
 2BHR-Case, F. S., 12 Collingwood Street, Wellington 4.
                                                                                 2BKB-
 2BHS-Smith, W. E., 30 Pipitea Street, Wellington.
                                                                                  2BKC-
2BHT-
                            Hereto-ga Callige
 2BHU-
2BHV-(Mrs) Holland, J. A., 5 Rose Street, Ranui Heights,
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2BHZ—Searle, P. M., House 1, Piripaua Hydro, Private
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 2BIA---
2BIB-Marett, G. A., 42 Wilford Street, Upper Hutt.
2BIC-MacLeod, D., 13 Hyde Street, Wainuiomata.
2BID-Gordon, A. F. W., 64 King Street, Taradale.
2BIE—Porirua College Radio Club (Trustee, F. R. J. Dean),
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2BIF—Brewster, D. W., 16 Bateup Road, Richmond. 2BIG—Bingham, W. J., 31 Elizabeth Street, Feilding.
2BIH—Burrell, G. A., 20A Tawa Terrace, Tawa.
2BII—Wincer, R. A., Ronga Valley, R.D. 1, Rai Valley.
2BIJ-Howarth, R. J., 67 Young Street, Wanganui.
2BIK—Pearce, W. M., 22 Hinau Street, Linden.
2BIL—Morris, R. K., 48 Victoria Street, Carterton.
2BIM—Weir, R. M., 5 Ashridge Road, Napier.
2BIN—Fletcher, G. L., 9 Jackson Street, Marybank, Nelson. 2BIO—Barnes, D. J., 16 Jackson Street, Nelson.
2BIP—McIsaac, A. J., 6 Richmond Avenue, Nelson. 2BIQ—Hill, A. McK., House No. 7, C/o N.Z.B.C., Titahi Bay.
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2BIS-Porter, I. G., 21 Arene Grove, Titahi Bay.
2BIT—Central Institute of Technology Radio Club (Trustee)
H. J. Maxwell, Electronics Department, Victoria
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 2BIU-
2BIV-Ladsen, V. D., 52 Percy Street, Blenheim.
                                                                                  2TBF-
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2BIZ-Stephenson, W. V., 460 Te Moana Road, Waikanae.
2BJA-Salmen, A. H., 8 Mudie Street, Lower Hutt.
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2BJB-
2BJC-Hill, I. McK. G., 29 Holdsworth Avenue, Trentham.
2BJD-Robson, E. H., 120 Marine Parade, Napier.
 2BJE-Bright, J. R., 23 Kippenberger Drive, Linton Mil.
               Camp.
2BJF-Hodgkinson, H. R., 104 Pinehaven Road, Pinehaven,
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2BJG—McGregor, B. A., 1 Havelock Street, Mornington, 2BJH—Woodward, C. A., 37 Cockayne Road, Wellington.
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2BJO—Cathcart, S. J., 406 Featherston Street, Palmerston
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2BJP—De Grey, r. Wanganui.
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2BJQ—Manning, S. C., 77 Omata Road, New Plymouth.
2BJR—Wilkinson, K. S., 7 Melrose Crescent, Wellington 3.
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2BJT—Fletcher, K. M., 493 Karaka Bay Road, Wellington 3.
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2TAD-Mallinson, E. J., 64 Seymour Street, Blenheim.
2TAE—Kerr, P. A., 20A Bellvue Road, Lower Hutt.
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2TAG—Bennett, A. J., 33 Ngatitoa Street, Tawa.
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2TAJ—Squires, D. R., No. 1 Newton Flats, 330 Marine
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2TAL—Gyde, R. V., 180 Huatoki Rd., New Plymouth.
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2TAO-Oldham, I. D., 31 Harbour View Road, Lower Hutt.
2TAP-Baker, W. R. E., 35 Harland Street, Wellington 2.
2TAQ-Hadfield, C. I., 42 Benmore Avenue, Palmerston
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2TAR—Ingham, J. D., 138 Dowse Drive, Lower Hutt.
2TAS—Marsh, J. K., Main Rd., Oakura, New Plymouth.
2TAT-Smith, K. R., 4 Mahia Place, Palmerston North.
2TAU-Wilson, S. J., 81 Sidlaw Street, Wellington 3.
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2TAW—Gede, S. G., 139 Cockayne Road, Wellington 4.
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2TAZ-Vernall, R. B., 17 Mallam St, Karori, Wellington 5.
2TBA-Higgott, L. G., Valley Road, Raetihi.
2TBB-Mackle, J. W., Makara Radio, Private Bag, Karori.
2TBC-Irvine, G., 16 Keats Crescent, Stoke.
2TBD-Owen, N. A., 22 Victory Cres., Tawa.
 2TBE-Hood, S. W., 38 Abbot Street, Wanganui.
2TBG-Snelson, K. H., 58 Batchelor Street, Wellington 4.
2TBH—Henderson, G. J., 19 Reese-Jones Grove, Maungaraki, Lower Hutt.
2TBJ-Joseph, D. H., 56 Pilmuir St., Lower Hutt.
2TBK-Love, G. A., 37 Ernest Street, Porirua.
2TBL—Lott, A. G., 47 Raukawa Street, Wellington 3. 2TBM—Bradley, G. S., 125 Tasman Street, Wellington.
2TBN—Shennan, B. V., 374 Broadway, Wellington 3. 2TBO—Campbell, L. T., 14 Leighton Ave., Lower Hutt. 2TBP—Norgrove, A. E., Flat 1, 65 Victoria Avenue, Palmerston North.
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2TBS—Ward, L. A., 171 Waiwhetu Road, Lower Hutt.
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 2TCA-Chong, S. G., 5 Beavis Lane, Wellington, 5.
2TCB—Cooper, A. S., Solway Crescent, Masterton.
2TCC—Brown, G. R., 28 John Street, Stokes Valley.
2TCD-
2TCE—Fielder, D. M., 38A Roxburgh St., Wellington 1. 2TCF—Garnett-Frizelle, H. H., 18 Ruahine St., Wellington. 2TCG—Cornwall, M. W. M., 32 Oxford Ter., Lower Hutt.
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 2TCJ-
2TCK-Ballantine, R. N., 49 Catherine Cres., Wellington 4.
 2TCL-Lacey, J. D., 233A Carrington Street, New Plymouth.
2TCM-Downs, F. W. P., 32A Field Street, Silverstream.
2TCN-Barnhill, J. D., 26 Garfield St., Brooklyn, Welling-
                    ton.
  2TCO-Lindrop, P. R., 31 Athens Street, Wellington 3.
2TCP-Pownall, M., 195 Cecil Road, Wellington, 1.
2TCQ---
2TCR-Holder, S. W., 133 Clawton Street, New Plymouth.
  2TCS-Turner C. R., 28 Rangoon Street, Wellington 4.
2TCT-McFarlane, P. H., 4 Lambley Rd., Titahi Bay, Wel-
2TCV—Morison, R. D., 40 Kiriwai Road, Paremata.
2TCW-Wheatley, M. J., 92 Oxford Street, Ashhurst.
2TCX—Hall, T. K., 3 Bedford Grove, Kelson, Lower Hutt. 2TCY—Creed, R. J., 4 Carrol Grove, Upper Hutt.
2TCZ—Creed, R. J., 4 Carrol Grove, Upper Hutt.
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2TDC—Crook, D. J., 19 Clark Avenue, Napier.
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2TDE—Langridge, D. P., 47 Fantame Street, Porirua.
2TDF-Dicker, J. L., Waimea West, R.D., Brightwater, Nel-
 2TDG-Wood, B. A., Main Road, Tasman, R.D. 1., Upper
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 2TDX-Ereckson, D. C., 59 Moxham Avenue, Wellinton 3.
2TDY-Richards, J. H., 633 High St., Lower Hutt.
 2TDZ—Goodwin, R. J., 40 Hewitts Road, R.D. 4,
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 2TFJ-Gorton, H. J., 210A Jackson Street, Petone.
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 2TFO-
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 2TFQ-Beaurepaire, W. K., Post Office Hostel Johnsonville.
2TFR—Firsby, B. S., 19 Cotswold Crescent, Newlands, Wellington.
2TFS-Burrell, K. M., 20D Liverpool Street, Wanganui.
 2TFT-Smith, M. W. J., 65 Longfellow Road, Opunake.
2TFU-
2TFV-
2TFW-Mackey, P., 64 Norway Street, Wellington.
2TFX-Underwood, C. F., 7 John St., Titahi Bay, Welling-
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2TFY-O'Reilly, B. P., 7 Wheatley Street, Lower Hutt.
2TFZ-Sayer, J. B., Norfolk Road, R.D. 1, Carterton.
2TGA-Kendall, G. N., 31 College Street, Wanganui.
2TGB-Gillespie, P. J., 610 Maddison Street, Hastings.
2TGC-Lambert, N. H., 19 Isobel Grove, Wainuiomata.
2TGD-Mills, D. J., 90 Warwick St., Wilton, Wellington.
2TGE-Wallis, J. B., No. 9 Fort Ballance, Seatoun, Welling-
              ton.
2TGG-Brown, N. L., 33 Milton Street, Upper Hutt.
2TGH-Henderson, V. N., 26 Shackleton Grove, Stokes Valley
2TGI—Steenson, A. D., St Andrews Road, Havelock North. 2TGJ—Johnson, T. S., 512 Huia Street, Hastings.
2TGK-Campbell, G. J., 8 Hammond Place, Palmerston Nth.
 2TGL-
2TGM-Meads, G. T., 3 Moa St., Inglewood.
 2GTN-Porter, C. B., 32 James Cook St, Havelock North.
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2TGR—Barraud, J. M., 54 Atkinson Street, Gisborne.
2TGS—Leckle, G. F., Flat 12, 20 Chaytor Street, Palmerston North.
2TGT-
 2TGU—Layton, G. R., Flat 4, 27 Abbot Street, Wellington 4.
2TGV-Eccles, K. R., Rosebank, Bideford, P. Bag, Masterton.
2TGW—Clifford, K. S., 106 Wellington Road, Wainuiomata.
2TGX—Morrison, J. F., 27 Mulgrave Street, Ashhurst.
2TGY-
2TGZ-Allmand, H. M., Te Horo.
2THA—Wright, B. E., 27 Stanley Street, Wainuiomata. 2THB—Cole, R. K., 51 Dale Road, Raumati.
2THC-Cole, E. S., 66 Ponsonby Road, Karori.
2THE-Allen, J. G. J., 5 Rutherford Street, Lower Hutt.
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2THG-Williams, J. M., 7 Kitchener Street, Waipukurau.
2THH-
2THI-Marshall, D. W., 195 Egmont Street, Patea.
2THJ-Nicholson, I. W., c/o. Himatangi Radio, Private Bag,
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 2THM-Broadbent, N. D., Vista Road, Ohau.
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2TID-Baker, N. E., 35 Harland Street, Wellington 2.

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2TIH-Schmidt, M. D. K., 43 Collingwood St., Palmerston North.

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2TIO-Skerrett, D. E., 10 Pukaki Grove, Porirua. 2TIP—McConnel, O. D., 32 Freyburg Street, Masterton. 2TIQ—McPake, E. G., 7 Balowie Avenue, Wanganui. 2TIR—Frazer, G. C., 14 Hinton Road, Taradale.

2TIS-Winton, L. J., 8 Esk Street, Palmerston North. 2TIT-Taylor, A. F., 35 Grove Street, Nelson.

2TIU-Woodward, L. F., 244 Featherston Street, Palmerston North.

2TIV-Tucker, C. N., 17 Jickell St., Palmerston North. 2TIW-

2TIX-Smith, T. R., C/o N.Z.B.C., Private Bag, Titahi Bay.

2TIY—Thomas, A. J., Schoolhouse, Fairfax Street, Murchison.
2TIZ—Gilchrist, J. V., 4A Kio Crescent, Wellington.

2TJA—Walker, A. L., 53 Green Street, Tahunanui. 2TJB—Windsor, J. D., 95 Ellice Street, Wellington.

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2TJK—Williams, G. C., 6 Marlborough Street, Silverstream. 2TJL—Newman, N. A., Owen River, Murchison. 2TJM-

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2TKD—Benson, K. J., Bone Crescent, Hawera.

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2TKS--

2TKT-

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2TLC-Herbert, T. E., 720 South Road, Omata. 2TLD-

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2TLT-

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2TMC-

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   2TNI-
   2TNJ-
 2TNK—Rumsey, J., 21 Malone Road, Lower Hutt.
2TNL—Shearer, D. B., 60 Rongopai Street, Palmerston North.
  2TNM-Baird, I. F., 19 Lighthouse Road, Napier.
 2TNN—Dobson, H. M., 133 Lucknow Street, Wairoa.
2TNO—Harrison, S. G., 11 Devon Street, Masterton.
Road, Gisborne.
2TNP—McLachian, 1. M., 2 Fire Station Flats, Palmerston
 2TNQ-Gibbs, B. R., 10 Whareroa Road, Raumatl South.
  2TNR-Hopkins, D. J., Moores Valley Road, Wainuiomata.
 2TNV—Dickens, P. M., 77 Simla Crescent, Wellington 4. 2TNU—Kerr, R. F., 53 Coates Street, Linden. 2TNV—Searle, D. W., 37 Fortunatus Street, Wellington 2. 2TNW—Donaldson, S. J., 105A Somme Parade, Wanganui. 2TNX—Brown, K. J., 42 Marlowe Street, Stoke, Nelson.
 2TNY-Sanson, R. G., Whangaehu, R.D. 6, Masterton.
 2TNZ—Speight, L. G., 21 France Road, Napier.
2TOA—Reddan, J. F., 5 Edinburgh Crescent, Blenheim.
  2TOC-Atkins, P. D., 45 Sunbrae Drive, Silverstream.
    2TOD-
 2TOD—Hills, D. M., 22A Polson St, Castlecliff, Wanganui.
2TOF—Vincent, P. C., 7 Pharazyn St., Feilding.
2TOG—Spearman, M. B., 5 Climie Cres., Hawera.
2TOH—Fulton, J. E. R., 6 Ernest St., Porirua.
 2TOI—Wilson, P., 3 Collier Avenue, Karori, Wellington.
2TOJ—Fleming, J. C., 3 Donnelley Drive, Wainuiomata.
 2TOK—Hay, D. I., 31 Victoria Avenue, Palmerston North. 2TOL—Buchanan, G. C., 8 Hughes Avenue, Palmerston North. 2TOM—Charlton, J. P., 5 Marne Street, Palmerston North. 2TON—Hill, A. N., 445 Ruahine Street, Palmerston North. 2TOO—Beswick, D. J., 8 Maarama Crescent, Wellington 2. 2TOP—Coley, N., 84 Main Road, Wainulomata.
2TOP—Coley, N., 84 Main Koad, Wainuiomara.
2TOQ—Gilligan, C. R., 155 Ruapehu Road, Ohakune.
2TOR—Woods, D. J., 30 Windsor Street, Palmerston North.
2TOS—Harrison, E. C., 105 Thackeray Street, Upper Hutt.
2TOT—Bowman, P. W., 4 Grange Park Avenue, Raumati.
2TOU—White, S. L., WBC Hostel, Purnell Street, Wanganui.
2TOV—Hadfield, L. C., 52 Percy Street, Blenheim.
2TOW—Watson, J. E., 50 Ellesmere Avenue, Miramar, Welligston.
                   lington.
 2TOX—Norden, A. P., 40 John Street, Stokes Valley.
2TOY—Mowles, T. A., 318 Stokes Valley Rd., Stokes Valley.
Wellington, 5.
2TOZ—
2TPA—Robbie, D. R., 4 Dover Street, Levin.
2TPB—Hellyar, G. I., 16 Hudson Avenue, Bulls.
2TPC—Briggs, W. V., 5 Collingwood Street, Levin.
2TPD—Randall, D. N., 37 Manuka Street, Otaki.
2TPE—Sargent, F. W., 56 Hurford Road, R.D. 4, New Plymouth.
 2TPF—Soppit, T. R., 802 Rangiora Street, Hastings.
2TPH—McKenzie, I., 39A Milford Street, Blenheim.
2TPI—Creed, D. J., 4 Carrol Grove, Trentham.
2TPJ—Jardine, B. J., 4 Wairau Place, Palmerston North.
2TPK—Stoks, F. G., 35 Harbourview Road, Lower Hutt.
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2TPL——Purdie, B. E., 25 Hudson Avenue, Bulls.
2TPM—Dawson, E. B. H., 29 Holborn Crescent, Stokes Valley.
2TPN—Dormer, P. C. (Miss), 90 Ames Street, Paekakariki.
2TPO—Wallis, G. T., 150 Kamahi Street, Stokes Valley.
2TPP—Beatson, W. N., C/o NZBC, Private Bag, Titahi Bay.
2TPQ—Browning, K. F., 9 Churchill Street, Blenheim.
2TPR—McGrath, K. A., 46 Whirinaki Crescent, Heretaunga,
Upper Hutt.
2TPS-Mills, D. F., 24 Stafford Street, Wellington.
 2TPT-Lewis, D. R., 3 Hereford Street, Porirua East.
 2TPV-Ware, G. A., Himitangi Radio, Private Bag, Foxton.
2TPW—White, T. W., 417 Fergusson Drive, Upper Hutt.
2TPX—Wiggins, M. A., 23 Slacks Road, Palmerston North.
2TPY-Mundell, K. W., 339A Devon Street West, New
                         Plymouth.
2TPZ-Challis, P. B., 8 Treasury Place, Linton Camp.
2TQA—McIlroy, L. J., 1 Queen Street, Wairoa.
2TQB—Puddy, R. D., 32 Churchill Avenue, Wairoa.
2TQC—Beale, A. L., 35B Te Oti Street, Paraparaumu Beach.
2TQD-
  2TQE-
2TQF-Prout, S. A., 23 Roy Terrace, New Plymouth.
2TOG-
2TQH—Woolf, J. C., 141 Marine Parade, Wellington 3. 2TQI—Tucker, N. R. A., Napier Road, Havelock North.
2TQJ—Wills, A. J., 337 Jackson Street, Petone.
2TQK—Maxwell, C. H., 8 Martin Grove, Lower Hutt.
2TQL—Randal, P. A., 71 Herald Street, Wellington 2.
                                               T., Flat 2, 37 Frankmore Avenue,
2TQM—Rowe, B. C. Johnsonville.
2TQN—Paris, S. J., 18 York Street, Masterton. Johnsonville.
 2TQO-Newport, B. J., 41 Shakespeare Avenue, Upper Hutt.
2TQP—Quin, C. J., 43 Disraeli Street, Hawera.
2TQQ—Jackson, R. G., 12 Randwick Crescent, Moera.
2TQR—Orsborn, P. R., 131 Winchester Street, Levin.
   2TQS-
    2TQT--Whittam, J. S., 241 Vogel Street, Palmerston North.
 2TQV—Barnett, A. D., 4 Parkway, Wainuiomata.
   2TQW-
 2TQX-Killington, B. H., 19 Montgomery Street, Feilding.
 2TQY-Killington, W. A., 19 Montgomery Street, Feilding.
2TQZ—Smith, K. E., 6 Falcon Street, Porirua.
2TRA—Douglas, B. T., 17 Vincent Street, Lower Hutt.
2TRB—Gaskin, R. B. P., 36 Kitchener Street, Wanganui.
2TRC—Kowalak, M. A., 122 Gracefield Road, Lower Hutt. 2TRD—Thomson, J. D., 23 Waiho Terrace, Elsdon, Porirua. 2TRE—Thompson, M. H., 110 High Street, Picton.
2TRF—Hare, L. S., 6 Rosebank Avenue, Lower Hutt.
2TRG—Stagpoole, V. M., 23 Horokiwi Road, Newlands,
Wellington 4.
 2TRH-Darby, P. R., 17 Doone Street, New Plymouth.
2TRJ—Cheesman, J. P., Toru Street, Mapua.
2TRK—Harling, D. S., 142 Quebec Road, Nelson.
2TRL—Pratt, D. H., 147 Cole Street, Masterton.
2TRM—Lamont, D. H., 42 Campbell Street, Napier.
2TRN—Allen, D. M., 11 Seddon Street, Upper Hutt.
2TRO—Hudson, D. S., 296 Stokes Valley Road, Stokes Valley.
2TRQ—McKenzie, N. A., 3 May Avenue, Napier.
2TRR—Cameron, H. K., 1 Tasman Street, Levin.
2TRS—Jamieson, P. A., 44 Solway Street, Masterton.
2TRT—Tindale, R. W., 9 Wilkes Street, Richmond.
2TRU—Wallace, A. J., Ferry Road, Spring Creek.
2TRV—Coole, D., 18 Corlett, Plymmerton.
2TRW—Richards, D. C., 60 Soames Crescent, Wellington 4.
2TRX—Coutts, C. G., 23 Michael Street, Masterton.
2TRY—Stewart, A. R., 7 Emano Street, Nelson.
2TRZ—Head, G. C., 88 Chelmsford Street, Wellington 4.
 2TRP-Pyne, R. E., 20 Tawai Street, Trentham.
   ZTSA—Millard, A. J., 34 Volga Street, Wellington 2.
2TSB—Logan, J. D., 312 The Esplanade, Wellington 2.
2TSC—Field, A. G., 9 Courtnay Road, Upper Hutt.
2TSD—Nankivell, G. R., 43 Holland Street, Wainuiomata.
2TSE—Harkett, R. J., 171 Vogel Street, Palmerston North.
2TSF—Chisholm, W. J. R., 44 Roxburg Street, Wellington 1.
2TSG—Brader, J. M., 2 St. Francis Grove, Lower Hutt.
2TSH—Codd, B. A., 13 Standish Street, Inglewood.
2TSI—Allison, D. N., 66 Collins Avenue, Linden.
2TSK—Millard, G., 182 Clyde Street, Wellington 2.
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- 2TSL—Owen, S. C. (Mrs), Main Road, Makara.
 2TSM—Brown-Douglas, F. A., Flat 4, 68 Oban Street,
 Wellington 1.
 2TSN—Oldenburg, B., 118 Rangituhi Crescent, Porirua.
 2TSO—Goodwin, D. R., 11 Stafford Street, Wellington 1.
 2TSP—Salt, B. R., 605 Albert Street, Hastings.
 2TSQ—Matheson, A. R., 26 East Street, Palmerston North.
 2TSR—Woodhouse, C. Wm., 57 Elmslie Road, Upper Hutt.
 2TSS—Byrne, H. W. 6 Cobden Street, Gisborne

- 2TSS—Byrne, H. W., 6 Cobden Street, Gisborne.

 2UHF—Wellington V.H.F. Group (Trustee G. A. Love), 37

 Ernest Street, Porirua. (Beacon Station located at Hawkins Hill).
- 2VHP—Manawatu Branch N.Z.A.R.T. (Trustees H. N. Wiggins and S. J. Cathcart). (Beacon Station located Mt Stewart, Mt Biggs Road, Palmerston North).

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3AA---
 3AB-Evans, L. C., 50 Wainoni Road, Christchurch, 6.
 3AC—Wright, L. J., 137 Prestons Road, Christchurch 5. 3AD—Donehue, W. R., No. 1 R.D., Timaru.
    3AE—No. 17 (ATC) Squadron Radio Club (Trustee
M. W. Duncan)., No. 7 Hanger, R.N.Z.A.F.,
 Wigram.

3AF—Ashburton Branch N.Z.A.R.T. (Trustees: V. P. Lovett.
P. E. Tarrant), 5 Albert Street, Ashburton.
 3AG--
 3AH-Courtis, H. B., 3 Bidwill Street, Timaru.
   3AI--
 3AJ-McDonald, K. R., 74 McBratneys Rd, Christchurch, 6.
    3AK-Sandford, G. G., Cooper's Creek, No. 2 R.D.,
                        Geraldine
 3AL—Donald, R. J., 5 Kinver Place, Christchurch, 2. 3AM—Kirk, R. E., 43 Dover Street, Christchurch, 1.
 3AN-
3AQ—Bell, M. W., 203 Weston Road, Christchurch, 5. 3AP—Tomlinson, H. C., 446 Hills Road, Christchurch, 5. 3AQ—Lovett, V. P., 148 Alford Forest Road, Ashburton. 3AR—Whyte, B. T., 17 Cambridge Street, Ashburton.
 3AS-Sams, C. G. A., 80 Straven Road, Christchurch, 1.
 3AT—Marquet, L. J., 23 Nortons Road, Christchurch, 4. 3AU—Byrne, J. L., 40 Walton Street, Christchurch, 2. 3AV—Wills, S. P., 26B Marshall Street, Christchurch, 2.
 3AW—Hills, H. O., 5 Davie Street, Kaiapoi.
3AX—Browne, N., 17 Newland Street, Christchurch, 2.
3AY—Mason, G. E., Hawarden.
3AZ—Rayner, D. A., 23 Waitohi Street, Christchurch 4.
 3BA-
BBB—Brane, M. L. ,514 Madras Street, Christchurch, 1.

BBC—Harrison, J., "Pinaki," Motunau R.D., Scargill.

BBD—Ludwig, M., 105 Beachville Road, Christchurch, 8.

BE—Christchurch Boys High School Radio Club, Straven Road, Christchurch, (Trustees: S. L. Allan and B. S. Robinson).
    3BF-Salt, S. J., 22 Otara Street, Christchurch 5.
 3BG—Himing, L. C., 23 Coopers Rd, Shirley, Christchurch, 6. 3BH—Bowman, G. R. B., 170 Revell Street, Hokitika.
 3BI—Brice, K. L., 18 College Avenue, Christchurch, 5.
3BJ—Hunter, L. C., 118 Colombo Street, Christchurch, 2.
3BK—Bolton, W. F., 25 Brynley St, Hornby, Christchurch, 4.
 3BL-Holland, B. N., 75 Blankney Street, Christchurch 4.
 3BM—Cook, D., 29 Ontario Place, Ashburton.
3BN—Sim, G. W., 47 Teesdale Street, Christchurch 5.
3BN—Sim, G. W., 47 Teesdale Street, Christchurch 5.
3BO—Thompson, W. K., 3 Hawkehurst Road, Lyttelton.
3BP—Mountford, T. G., 141A Otipua Road, Timaru.
3BQ—Griffiths, C. E., 30 Hounslow Street, Christchurch, 4.
3BR—Ramsay, W. J., 40 Twyford Street, Bishopdale, Christchurch, 5.
3BS—Tweedie, S. B., 454 Ferry Road, Christchurch.
3BT—Ensor, H. W., Ohinetahi, Governor's Bay, 2 R.M.D., Christchurch.
3BII—Docherty, W. Mills Street, Runanga.
 3BU—Docherty, W., Mills Street, Runanga.
3BV—Schaef, L. M., 10 Bridge Street, Greymouth.
3BW—Burt, G. L., 114 Marsden Road, Greymouth.
 3BX-Jones, T. R., Maungati, Timaru.
3BY-Beech, S. C., 150 Harewood Road, Christchurch, 5.
 3BZ-Jackson, W. H., Deal Street, Kaikoura.
 3CA—Hughes, C. A., Main Road, Domett.
3CB—Urlwin, B. A., 23 Crofton Road, Christchurch 5.
3CC—Elliott, J. B., 25 Frankleigh Street, Spreydon, Christchurch, 2.
3CD—Smillie, J. W., Lake Tekapo.
3CE—Hewson, J. N., 20 Darroch Street, Christchurch, 5.
3CF-Simpson, A. E. H., 136 Mersey St., Christchurch, 1.
 3CH-McKnight, S. G. J., 24 Celia Street, Christchurch 8.
 3CI-Isherwood, B., 134 Park Street, Hokitika.
3CJ-Bell, R. G., 50B Murray Place, Christchurch, 1.
SCK—Riddell, J. C. S., 262 Grahams Road, Christchurch 5. 
3CL—McKay, A. D. G., Duvauchelle. 
3CM—Clark, J. M., 185 Waimairi Road, Christchurch, 4. 
3CN—Gorman, B. D., 188 North Street, Timaru. 
3CO—Seton-Kellaway, G., Allan Street, Waikari. 
3CP—Parton, C. W., 78 Diamond Avenue, Spreydon, Christ-church, 2.
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3CQ—3CR—Hervey, C. R., 27 The Terrace, Timaru. 3CS—Downer, G. H., Larcombs Rd, No. 5 R.D., Christchurch. 3CT—Berryman, C. T., 32 Wembley St., Christchurch, 2. 3CU—McGowan, J. S., 75 Eastern Terrace, Christchurch, 2. 3CV—Gilligan, M. S. J., 368 Barrington St., Christchurch, 2.
 3CW-Wilkins, T. D., 36 Gayhurst Road, Dallington, Christ-
                church, 6.
3CX—Stewart, J. D., 4 Mona Square, Ashburton.
3CY—Hughes, W., 418 Memorial Avenue, Christchurch, 5.
3CZ—Rose, F. L., 23 Sails St., Papanui, Christchurch, 5.
 3DA-Fletcher, G. K., 16 Kahu Street, Burnham, Christ-
                     church.
 3DB—Reynolds, W. A., 241 Hampden Street, Hokitika. 3DC—Scarr, G. E., 12 Brent Place, Christchurch, 5. 3DD—Lemin, A., 133 Mays Road, Christchurch, 5.
 3DF-Yoeman, J. C., 110 Bristol Street, Christchurch, 1.
 3DG-Hood, N. D., 47A Aorangi Road, Christchurch, 5.
 3DH-McBride, A. W. I., 19 Pukatea Street, Timaru.
3DJ—Andrews, A. S., Flat 3, 63 Beresford St, Christchurch 7. 3DK—Holmes, C. E., 24 Picton Avenue, Christchurch, 1. 3DL—Barker, L. G., 27 Hillview Crescent, Timaru.
3DM—Calvert, R. L., 253A Waimairi Road, Christchurch 4. 3DN—Westland Branch NZART (Trustee, D. Campbell), 61 Hall Street, Cobden.
 3DO—Sharp, V. E. E., 10 Sewell St., Linwood, Christchurch, 6. 3DP—Sweeney, A. P. H., 10 Burnside Cres., Christchurch, 5.
 3DQ-Goldsbrough, R. F., 149 Harewood Road, Papanui,
                     Christchurch, 5.
   3DR—Bargh, K. A., Flat 4, 92 College Street,
Christchurch 1.
Christchurch 1.

3DS—Farquhar, A. J., 85 Owles Terrace, New Brighton, Christchurch, 7.

3DT—Rough, J. L., 21 Barclay Place, Christchurch, 6.

3DU—Wilson, V. J., 33 Rosebery Street, Christchurch, 2.

3DV—Jefferis, E. W., 23 Rosedale Place, Christchurch, 4.

3DV—Edward, L. N. M., 45D Glenharrow Avenue, Christchurch, 4.
 3DX-McGee, W. H., 11 Glenavon Place, Christchurch 4.
 3DZ—Johnson, E. A., 66 Greendale Street, Christchurch 5. 3FA—Armstrong, G. T., 28 Melcombe Street, Tinwald. 3FB—Breen, P. W., Flat 3, 84 Grey Road, Timaru.
  3FC-Guthrie, M. W., 74 Merivale Lane, Christchurch, 1
 3FD-Currie, R. L., 213 Colombo Street, Christchurch, 2.
 3FE—Stevenson, A. D., 47 Golf Links Road, Burwood, Christchurch, 6.
 3FF—Kelly, I. J. H., 47 Kilmarnock Street, Riccarton, Christ-
church, 5.
  3FG-Wickham, L. M., 54 Barrington Street, Christchurch, 2.
 3FH-Mail, L. C., 46 Wilson Street, Geraldine.
 3FI-Smith, E. S., 112 Russell Street, Westport.
3FI—Smith, E. S., 112 Russell Street, Westport.
3FJ—Brown, D. A., 141 Roydvale Avenue, Christchurh 4.
3FK—Hepburn, L. D., P.O. Box 1410, Christchurch, 2.
3FL—Ward, S. T., 14 De Havilland Street, Christchurch 4.
3FM—Campbell, R. J., 6 Candys Road, Christchurch, 3.
3FN—Wilson, R. J., 8 Catherine Street, Ashburton.
3FO—Blackmore, J. H., 364 Riverlaw Terrace, St. Martins,
Christchurch, 2.
3FP—Kyle, E. A. J., 12A Mountford Street, Christchurch, 2.
3FP—Kyle, E. A. J., 12A Mountford Street, Christchurch, 2.
3FR—Cloudesley, B. E., 14 Boulton Avenue, Spreydon, Christchurch, 2.
3FS—Seed, D. P. (Mrs), 18 Arthur Street, Christchurch, 4.
3FT—Wood, R. G. S., 85 Marine Parade, New Brighton, Christchurch, 7.
3FU—McPhail, T. K., 131A Clyde Road, Christchurch, 4. 3FV—McCracken, W. D., 14 Northcote Road, Papanui,
                     Christchurch, 5.
3FX-Blake, R. G. F., 20 Bounty Street. Christchurch, 5.
3FY—Gardner, R., 14 Shaftbury Street, Christchurch, 5. 3FZ—Gledhill, A. F., 134 Halswell Road, Christchurch, 2. 3GA—Gale, W. T., 113 Petrie Street, Shirley, Christchurch 1. 3GB—Cronin, D. W., 86 St. Martins Road, St. Martins,
  Christchurch, 2.
3GC—Baker, D. M., 19 Evans Street, Timaru.
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3GD—Kingan, S. G., Rakaia.
3GE—Welford, A. R., 12 Devon Street, Timaru.
3GF—Bool, W. A., 310 Wainoni Road, Christchurch 7.
3GG—Scott, J. R., Old West Coast Road, R.D. 1,
                                       Christchurch.
    Gristchurch.

3GH—Mitchell, N. J., 15 Blossomdale Place, Christchurch, 5.

3GI—Halliburton, G. J., 6 Barlow Street, Fendalton, Christchurch, 4.

3GJ—McCaul, M. G., 37 Searells Road, Papanui, Christchurch, 5.

3GK—Perkin, S. R., 4 Waitaki Street, Bexley, New Brighton, Christchurch, 7.
    SGK—Perkin, S. R., 4 Waltan Street, Devicy, the Christchurch, 7.

3GL—Philips, R. J., 15 Wyn St., Hoon Hay, Christchurch, 2.

3GM—Andrews, R. A., 9 Bickerton St., Christchurch, 6.
     3GN—Dacombe, A. N., 33A Huntsbury Ave., Christchurch, 2. 3GO—Grice, G. G., 11 Bradshaw Terrace, Christchurch, 1.
    3GP—Eddy, A. W., Lake Road, Irwell, via Christchurch, 3GQ—Watson, P. W., Hamptons Road, R.D. 4, Christchurch. 3GR—Calvin, L. J., 3 Eldon Lane, Greymouth.
    3GS-Wright, G. M., 25 Dunedin Street, Christchurch, 5.
   3GU—Keys, J. R., 60 Huxley St., Sydenham, Christchurch, 2. 3GV—Edwards, W. G., 50 Domain Terrace, Sydenham, Christchurch, 2. 3GW—Hooper, W. G., 24 Woodbury Street, Christchurch 4.
  3GX—Cook, S. A., 100 Waimairi Road, Christchurch 4. 3GZ—Smith, H. E., 12 Tasman St, Carters Beach, Westport. 3HA—Arnold, H. F., 165 Knowles Street, Christchurch, 5. 3HB—Signal, C. B., 4 Ranfurly Street, Timaru. 3HC—Brittenden, C. E. R., 329 Wainoni Rd, Christchurch, 7. 3HD—Chambers, D. H., 7 Euston Street, Riccarton, Christchurch, 4
 SHD—Chambers, D. H., 7 Euston Street, Riccarton, Christchurch, 4.

3HE—Harris, J. G., "Ranui" House Surgeons Quarters, Cambridge Terrace, Christchurch 1.

3HF—Robb, C. M., 16 Mt. Pleasant Road, Christchurch, 8.

3HG—Wilde, A. R., (Miss), 18 Beveridge Street, Christchurch 1.

3HH—Wylie, R. L., 21 Vickery Street, Kaiapoi.
  3HI—Tucker, S. A., 75 Mahars Road, Christchurch, 5. 3HJ—Hyndman, A. W., 196 Dyers Pass Road, Christchurch, 2.
  3HK---
  3HL-
  3HM—Evans, C. E., 12 Beach Road, Kaikoura.
3HN—Holtum, J. W., 461 Johns Road, Harewood, Christ-
church, 5.
SHO—Summers, Jnr., J. H., 15 Clonbern Place, Christchurch, 4.

3HR—Leitch, A., 658 Pages Road, Christchurch 7.

3HS—Kempthorne, J. H., 46 Major Hornbrook Road, St. Andrews Hill, Christchurch, 8.

3HT—Grey, R. B., 170A Waimairi Road, Christchurch, 4.

3HU—Gibson, E. N., 4 MacDonald Street, Timaru.

3HW—Johnson, J. F. L., 247 Geraldine St., Christchurch, 1.

3HW—Wallace, C. W., 14 Brookby Crescent, Christchurch, 1.

3HX—Heming, J. G., 7 Kibblewhite Street, Christchurch 1.

3HY—Fleming, J. G., 7 Kibblewhite Street, Christchurch, 7.

3HZ—Southgate, W. A., 7 Paeroa Street, Christchurch, 4.

3IA—Langrope, S. J., 54 Rue Jollie, Akaroa.

3IB—Walker, J. R. L., 19 Athol Terrace, Christchurch, 4.

3IC—McCulloch, I. A. G., 58 Slater Street, Richmond, Christchurch, 1.
 SID—Pettigrew, W. L., 148 Peel Street, Westport.

3IE—Hopkinson, L. G., 107 Evans Street, Timaru.

3IF—Higgins, H. E., 6 Elm Grove, Christchurch, 1.

3IG—Lewis, G. H., 173 Palmers Road, Chritchurch 7.

3IH—Tarlton, B. M., 168 Condell Avenue, Christchurch, 5.

3II—Hampton, D. K., C/o Sergeants' Mess, R.N.Z.A.F.,

Wigram.
  31K-Murray, J. C., 3 Kitchener Place, Opawa, Christchurch,
  31L-Moffatt, C. L., 29 Hampton Road, Christchurch, 5.
 31M—Summerfield, H. J. D., 59 Cox Street, Geraldine. 31N—Cox, R., 16 College Avenue, Christchurch 5. 31O—Crossman, G. D., Milford, Temuka. 31P—Johnston, A. P. R., 211 Greers Road, Christchurch, 5.
 31Q—Drummond, W. P., 11 Reid Crescent, Ashburton.
31R—Benson, A. F., 68 Wharenui Road, Riccarton, Christ-
church, 4.
 315-Soanes, G. A., 245 Westminster Street, Christchurch, 1.
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31T—MacDonald, J. D., 42 Buchanan Street, Timaru.
31U—Robinson, M. G., 8 Highsted Road, Christchurch, 5.
31V—Rae, A. O., 5 Waldan Place, Christchurch, 5.
  31W—Maddren, G. R. H., 263 Hoon Hay Road, Christ-
church, 2.
 31X—Williams, D. C., 18 Roche Avenue, Christchurch, 4. 31Y—Vickery, K., Raven Street, Kaiapoi. 31Z—Duncan, A., 17 Cobham St., Spreydon, Christchurch 2. 3JA—Avery, J. L., 188 Union Street, Christchurch 6. 3JB—Burtenshaw, J. W., 32 Balguerie Street, Akaroa.
 3JC—Thornton, A. B., 96 McKenzie Ave., Christchurch, 2. 3JD—Lyes, A. E., 12 Voss Street, Christchurch 1. 3JE—Duffield, K., 2 Averill Street, Christchurch 1. 3JF—Henderson, H. P., 35 Hillview Crescent, Timaru. 3JG—Holland, F. J., 33 Evans Street, Timaru.
 3JH—Kingston, E. W. A. H., 18 Smith Street, Woolston, Christchurch, 6.
  3JI-Foulds, L. F., 131 Cuthberts Road, Christchurch, 6.
    3JJ---
 3JK—Williams, H. E., 51 Westholme St, Christchurch 5. 3JL—McFarlane, A. R., 48 Chalmers Avenue, Ashburton. 3JM—White, D. V. B. P., 118 St. Martins Road, Christ-
                 church, 2.
 3JN—Mummery, B. H., 8 McIntyre Street, Christchurch 1. 3JO—Johnstone, M. O., 107 Beverley Road, Timaru. 3JP—Langley, E. W., Rural Delivery, Domett. 3JQ—Butcher, C. C. E., 480 Armagh St., Christchurch, 1. 3JR—
  3JS-Pruden, H. C. L., 131 Tancred Street, Christchurch, 6.

    3JU—Sorensen, A. G., 62 Shortland Street, Christchurch, 6.
    3JV—MacGeorge, B. A., 9 Opie Street, Waimate.
    3JW—Anderson, R. A., 9 Greenwood St., Mairehau, Christchurch, 1.

3JX—Rowlands, T. E., "Ruthin", R.D., Kaiapoi.
3JY—Stalker, J. P., Greenpark, No. 4 R.M.D., Christchurch.
3JZ—Burke, W. C., 31 William Street, Timaru.
3KA—Macer, J., 31 Colwyn Street, Christchurch, 5.
3KB—Humphrey, E. H., 173 Geraldine Street, Christchurch 1.
3KC—Cuttriss, S. A., 33 Brabourne Street, Christchurch.
3KD—Diedrichs, G. H., 24 Ashbourne St., Christchurch, 5.
3KE—McGrath, R. E., 42 Rhodes Street, Christchurch, 1.
3KF—Pettitt, E. R., 6A Usk Street, Timaru.
3KG—Willmott, W. R., C/o Willmotts, Drapers, The Arcade,
                       Timaru.
3KH—Howell, R. H. J., 59 Brockworth Place, Christchurch 1, 3KI—Pratt, D. G. C., 16 Northcote Road, Waimairi, Christchurch, 5.
   3KJ-Major, J. E., 82 Chalmers Avenue, Ashburton.
3KK—
3KL—Howell, B. C., 6 Deepdale Street, Christchurch, 5.
3KM—Woodfield, M. K., 18 Truman Road, Christchurch 5.
3KN—Wilson, G. J. A., 212 Matsons Road, Papanui, Christ-
church, 5.
church, 5.

3KO—

3KP—Parr, W. E., 555 Memorial Avenue, Christchurch, 5.

3KQ—Lewitt, R. M., 3 Pound Street, Amberley.

3KR—Cox, R. C., 109A Garlands Road, Christchurch 2.

3KS—Downer, M. H., 12 Aylmer Street, Christchurch 2.

3KT—Olsson, E. E., 14 Bentley Street, Christchurch, 4.

3KU—Waters, K. A., 2 Pitt Street, Runanga.

3KV—Brown, H. H., 22 Birkenhead St., Christchurch, 4.

3KW—Faass, S. R. F., 4 Staines Street, Christchurch, 5.
 3KX-Harrington, R. J., Mount Harris Rd., 9 R.D., Waimate.
3KY-Talbot, A. D., Opuha, Pleasant Point, Timaru.
3KZ—Thomas, N. W., 39 Bishop Street, Christchurch, 1. 3LA—Mitchell, C. J., 57 Rintoul Street, Westport. 3LB—Hamilton, W. R., 17 Braithwaite St., Christchurch, 4.
  3LC-Corner, P. E., 58 Dunster Street, Christchurch 5.
   3LD-Mattingley, L. H., 27A Brenda Street, Timaru.
3LF-Robinson, J. D., Upper Waitohi, Temuka R.D.
3LG-Jackson, C. J., 74 Cambridge Street, Ashburton.
3LI—Smith, C. E. W. H., 17A Gothic Place, Christchurch 4. 3LJ—Wigram Radio Hobbies Club, (Trustee D. K. Hampton), RNZAF Station, Wigram, Christchurch 4.
3LK—
3LL—Lyttle, L. G., 423 Wai-iti Road, Gleniti, Timaru.
3LM-Burrell, N. W., 63 Kotare Street, Christchurch 4.
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3LN—Laurie, R. G., 130 Mooray Avenue, Christchurch, 5. 3LO—Cairns, A., 4A Walker Street, Christchurch 1. 3LP—Leitch, R. C., 4 Joyce Crescent, Greymouth.
3LQ—Paltridge, K. K., 131 Warrington St., Christchurch, 1.
3LR—London, P. R., 1 Galway Crescent, R.N.Z.A.F., Wigram, Christchurch, 4.

3LS—Miller, G. C., 47 Cox Street, Christchurch 1.

3LT—Stanbury, A. C., 43 Dunedin Street, Northcote, Christ-church, 5. 3LU-Craft, J. R., 9 Bucknell Road, Christchurch 4. 3LV-3LW-Wardell, W. M., 192 Salisbury St., Christchurch, 1. 3LX—Kirkpatrick, I. J., 99 Bickerton Street, Christchurch, 6. 3LY—Eddington, J. A., 23 Ferner Street, Christchurch, 6. 3LZ—Steel, J., 28 Hoani Street, Papanui, Christchurch, 5. 3MA—Kingswell, G. N., Lakeside R.D. 3, Christchurch. 3MB—Callander, H. A., 376 Estuary Road, South Brighton, Christchurch, 7. 3MC—McKenzie, D. S., 99 Creek Road, Ashburton. 3MD—McLaren, P., 88 Spencer Street, Addington, Christ-church, 2. 3ME—Bramley, C. J., 198 Greers Road, Avonhead, Christ-church, 5. 3MF—Oates, D. J., Carters Beach, c/o P.O. Box 90, Westport. SMG—Urlwin, R. A., 30 Ryeland Avenue, Christchurch, 4.
 3MH—Murphy, G. C., 16 Keller Street, Christchurch, 6.
 3MI—Sullivan, R. E., 103A Jeffreys Road, Christchurch, 5.
 3MJ—Lewis, C. T., 30 Te Rama Place, Christchurch, 6.
 3MK—Phillips, A. S., 148 Brookside Terrace, Bryndwr, Christchurch, 5.
 3MI—McNicol, A. D., 24 Geineford Street, Christeliush, 4 3ML—McNicol, A. D., 26 Gainsford Street, Christchurch 4. 3MM—Hills, R. I., 25 Rapaki Road, Christchurch, 2. 3MN—McMullan, J. T., 53 Marama Cres., St. Andrews Hill, Christchurch, 8. 3MO—Murphy, P. C., NZED Sub Station, Waipara. 3MP—Gardwell, A. M., 18 Edward Avenue, St. Albans, Christchurch. 3MQ—Inge, S. R., 10 Flesher Ave., Richmond, Christchurch 1 3MR—Warner, J. A., 11 Goulds Road, Timaru. 3MS—Brash, J. P., 14 Rydal Street, Christchurch, 2. 3MT—Pellett, M. A., 95 Nayland Street, Sumner, Christchurch, 8. 3MU—Henshall, Mrs U. H., 281 Innes Road, Christchurch, 5. 3MV—Morrin, E. C., 45 Wychbury Street, Spreydon, Christchurch, 2. 3MW—McDonald, B. N., 19 Walton Crescent, Christchurch 5. 3MX—Cacon, A. V., 198 Otipua Road, Timaru. 3MY—Searle, R. W., 9 Beachville Road, Christchurch, 8. 3MZ—Arnold, D. H., 11 Voss Street, Shirley, Christchurch, 1. 3NA—Robinson, D. G., Kowhitirangi, R.D., Hokitika. 3NB—Swan, A., 29 Manor Place, Bryndwr, Christchurch, 5. 3NC-Ingram, R. C., 18 Whiteleigh Avenue, Christchurch 2. 3ND—Liddell, C. G., 356 Avonside Drive, Christchurch, 6.
3NE—Gyde, R. M., 144A Kerrs Road, Christchurch, 6.
3NF—Garton, W. C., 81A Eastern Terrace, Christchurch 2.
3NG—Murray, G. A., 72 Idris Road, Christchurch, 5.
3NH—Rogers, P. J., Chr Cashmere and Happy Home Roads,
Christchurch, 3.

3NI-Walker, D. N., 34 Usk Street, Timaru. 3NJ—Vincent, R. L., 18 Rugby Street, Timaru. 3NK—Robinson, M. C., 40 Lyttelton Street, Spreydon, Christ-church, 2.

3NL—Tait, A. McM., 8 Ashbourne Street, Christchurch, 5. 3NM—Young, R. S., 14 Suva Street, Christchurch, 4. 3NN—Walshe, J. R., 23 Torea Street, Granity. 3NO—Deam, G. T., 43 Mill Road, Walmate.

3NP-3NQ—Mayes, C. W., 6 Braemar Place, Christchurch, 6. 3NR—Horan, D. E., Waitangi, Chatham Islands. 3NS—Ositis, T., 128 Brookside Terrace, Christchurch, 5. 3NT-Blackwell, G. C., 3 Dobson Street, Christchurch, 2. 3NU—Steenson, H. R., 20 Hewlings Street, Christchurch, 1. 3NV—O'Connor, E. P., 6 Stephens Street, Rangiora 3NW-Coleman ,E. R., C/o D. J. Shier, Osborne Street,

Amberley. 3NX-Smith, W. C., 71 Glenroy Street, Woolston, Christchurch, 6.

3NY—Grose, D. T., 5 Ruru Road, Christchurch, 6. 3NZ—Fletcher, J., 187 Lincoln Road, Christchurch, 2.

30B—Jefferies, J. C., 108 Chalmers Avenue, Ashburton. 30C—Horne, R. C., 179 Blackett Street, Rangiora.

30D—Adie, A. Waitawa, Pleasant Point.
30E—Richards, D. L., 38 Frankleigh Street, Christchurch, 2.
30F—Smith, T. C., Harihari.
30G—Harris, J. R., 134 Shortland Street, Christchurch, 6.
30H—Knoef, F. J. C., 54 Harbour Road, Christchurch 5.
30I—Chapman, G. H., 122 Pine Avenue, Christchurch, 7. 30J-

30K-Thomson, C. W. H., Lagmore Road, Tinwald, Ashbur-

ton.
30L—Moyle, W. F., 120A Somerfield Street, Christchurch, 2.
30M—Ferrand, C., 14 Leverett Place, Christchurch, 7.
30N—Nicholls, J. B., 28 Weka Street, Christchurch, 4. 300-

300—Prebble, N. W., 134 Waimari Road, Christchurch, 4. 30Q—Sorensen, E. A., 37 Hendon Street, St. Albans, Christ-church, 1.

30R-Sewell, J. M., 120 Stanmore Road, Linwood, Christchurch, 1.

30S-30T--

ZL--

30U—Colley, M. J., 111 Shakespeare Street, Greymouth. 30V—Scrivener, E. H., 113 Blenheim Rd., Christchurch, 4.

30X—Moore, J., Main Road, Harihari, South Westland, 30Y—Coull, G., 45 Seven Oaks Drive, Christchurch, 5. 30Z—Burberry, R. L., 25 Percival Street, Beckenham, Christchurch 2. 3PA—Rawstorn, G. J., 23 Coniston Avenue, Christchurch 4. 3PB—Lobb, G. W., 64 Peel Street, Westport. 3PC—Abernethy, J. L., 110 King Street, Rangiora.

3PD-Pluck, R. L., Forbes Road, Tai Tapu.

3PE—Carruthers, J. E., 80 Gilberthorpes Road, Hornby, Christchurch, 4.

3PF-Asher, A. S., 168 Maidstone Road, Christchurch 4. 3PG-

3PH—Stahl, D. M., 46 Orchard Road, Christchurch 5. 3PI—Bartrum, B. R., 31B Bowenvale Avenue, Cashmere,

Christchurch, 2. 3PJ—Grewar, M. A., 244 Hampden Street, Hokitika. 3PK-Robertson, J., 3 Merle Place, Christchurch, 2.

3PL—Lobb, R. E. (Mrs), 64 Peel Street, Westport. 3PM—McGee, P. D., 28 Conway Street, Christchurch, 2. 3PN—Boorer, G. F., 48A Newton Street, Timaru. 3PO—Turner, D. K., Coal Creek, Greymouth. 3PP-

3PQ-Schollar, K., 473 Manchester Street, Christchurch, 1. 3PR-Taylor, R. J., 456 Innes Road, Mairehau, Christchurch,

3PS-Davidson, F. W., 25 Sledmere Street, Bryndwr, Christ-

church, 5.
3PT—Smith, F. J. A., 2 Shaftesbury Avenue, Upper Riccarton, Christchurch, 4.

3PU-Higgs, R. B., 51 Roker Street, Christchurch, 2.

3PV—Walker, W., Springston. 3PW—Bevin, J. F., 91 Queen Street, Westport.

3PX-Chapman, G. A., 35 Harrison Street, Christchurch 1. 3PY-Adams, E. D., 487 Greers Road, Christchurch, 5.

3PZ—Jackson, W. B., 42 Churchill Street, Kaikoura. 3QA—McGlashan, A. E., 237 Brighton Road, Christchurch 6.

3QB-McGlashan, D. C., 104 Papanui Road, Christchurch, 1. 3QC--

3QD—Arcus, A. C., 92 Milton Street, Christchurch, 2. 3QE—Browne, E. M. J., 9 Sarsfield Street, Southbridge.

3QF-Cotton, M., 10 Hugh Street, Kaiapoi.

3QG-Ross, G. L., 255 Cannon Hill Cres., Christchurch, 8. 30H-

3QI-Wornall, C. J., 414 Breezes Road, Christchurch, 7.

3QJ—Havord, P. R., 16 Worsley Road, Christchurch, 2. 3QK—Smith, W. M. B., 1 Bray Street, Woolston, Christchurch, 6.

3QL-Carrell, T. D., 96 Teesdale Street, Christchurch 5. 3QM---

3QN-Barber, F. E., 24 Wimborne Crescent, Christchurch, 7.

3QP—Spence, R. D., 15A Kidson Terrace, Christchurch, 2. 3QQ-Seed, T. J., 18 Arthur Street, Christchurch, 4. (Portable).

3QR—Gillman, G. H., Bradleys Road, Ohoka, Kaiapol R.D. 3QS—Sword, J. A. D. S., 395 Halswell Street, Christchurch 3. 3QT—Delis, J. B. G., 455A Johns Road, Harewood, Christchurch, 5.

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3QU—Borrell, R. P., 93 Chapter Street, Christchurch 5. 3QV—Smith, R. H., 75 Tilford Street, Christchurch 6. 3QW—Hawke, W. C., 129 Kerrs Rd, Linwood, Christchurch 6. 3QX—Mayo, G. J. L., 45 Stanbury Avenue, Christchurch, 2. 3QY—Belcher, E. W., 1 Hall Street, Cobden, Greymouth. 3QZ—Daniels, F. J. H., Ngakawau, via Westport. 3RA—Riach, C. D., 25 Buffon St., Waltham, Christchurch, 2. 3RB—Davis, A. W., Aylesbury, No. 1 R.D., Christchurch, 3RC—Le Nedelec, G. L., Flat 2, 88 Rossall St, Christchurch 1. 3RD—Davey, D. R. 44 Teesdale Street Burnside, Christ-
                                                                                                                                                                             3TL—Paterson, M. S., 120 Hastings Street, Christchurch, 2. 3TM—Buchanan, W. A., 167 Sewell Street, Hokitika. 3TN—Dowling, D. W., No. 2 R.D. airview, Timaru.
                                                                                                                                                                              3TO-Harvey, S. J., 4 Lochee Road, Christchurch, 4.
                                                                                                                                                                              3TP-McLean, A. G., 24 Rugby Street, Timaru.
                                                                                                                                                                              3TQ-Agnew, G. A., 282 Waterloo Road, Hornby, Christ-
                                                                                                                                                                              church, 4.

3TR—Haynes, J. C., 26 Roosevelt Avenue, Christchurch, 1.
                                                                                                                                                                             3TS—Smith, A. E., 23 Deloraine Street, Christchurch 2. 3TT—Roberts, N. M., 21 Ruthergien Avenue, Christchurch 4. 3TU—Sharnock, M. A., 68 Glenroy Street, Christchurch, 6. 3TV—Greene, R. S., 89 Shakespeare Street, Greymouth. 3TW—Riley, T. R., 19 Sullivan Ave., Opawa, Christchurch, 2.
   3RD-Davey, D. R., 44 Teesdale Street, Burnside, Christ-
   church, 5.

3RE—Gould, A. R., 462 Pages Road, Aranui, Christchurch, 7.

3RF—Dickey, C. N., 20 Todd Avenue, Christchurch, 5.
                                                                                                                                                                             3TX—Strong, W. S., 20E Hackthorne Road, Christchurch, 2.
3TY—McQuarrie, R. J., 14 Weenink Road, Greymouth.
3TZ—Tariton, I. M., Hawthornden Road, Christchurch, 4.
3UA—Mulholland, F. S. T., 4 Bramwell Street, Dailington,
Christchurch, 2.
   3RH—Howell, P. A. G., 36 Rollesby Street, Christchurch, 2. 3RI—Hughes, J. O., 82 Hall Street, Cobden, Greymouth. 3RJ—Hutton, B. G., 5 Rosamund Place, Christchurch, 3.
  RK—McKenzie, T. J., 73 Cygnet Street, Christchurch, 7. 3RL—Tunnicliffe, D. N., 17 Panorama Road, Christchurch, 8. 3RM—Fisher, K. G., 59 Marsden Road, Greymouth. 3RN—Yeates, D. R., 69 St. Andrews Hill Road, Christchurch. 3RO—Wyllie, C. R., 69 Arthur Street, Timaru. 3RP—West, L. E., 21 Greenwood Street, Christchurch, 1.
                                                                                                                                                                             3UB—Stevenson, H. H., 47 Opawa Road, Christchurch, 2, 3UC—Eden, G. C., 19 Arlington Street, Christchurch, 5, 3UD—Duxbury, I. C., Pigeon Bay R.D., Duyauchelle.
                                                                                                                                                                             3UE—Edwards, R. J. G., 226 Greers Road, Christchurch, 5. 3UF—Prue, B. O., 111 Union Street, New Brighton, Christchurch, 7. 3UG—Taylor, K. P., 2 Bowenvale Avenue, Christchurch, 2. 3UH—Lewitt, T. W., 3 Pound Street, Amberley. 3UI—Meredith, F. P. R., 21D Dyers Pass Rd, Christchurch 2.
  3RQ—Eddy, W. J. S., 46 Nayland Street, Sumner, Christ-
church, 8.
  3RR—North Canterbury Amateur Radio Club, Trustee, G. H. Gillman, Drill Hall, Victoria Street, Rangiora. 3RS—Campbell, D., 61 Hall Street, Cobden.
                                                                                                                                                                             3UJ—Kilday, W. J., 269A Woodham Road, Christchurch 6.
3UK—Chisholm, L. D., 8 Gibbon Street, Waltham, Christ-
church, 2.
  3RU-Bennett, R. G. T., 60 Kirkwood Ave., Christchurch, 4.
                                                                                                                                                                             3UL—Smith, A. F., 39 Wesley Street, Kaiapoi.
3UM—Boyes, G. S., 6 Marshall Street, Christchurch, 2.
3UN—Marshall, A. J., No. 7 R.D., Ashburton.
  3RV—Rigg, I. K., 50 St. John Street, Christchurch, 6. 3RW—MacKay, D. J., 22 Waipara Street, Christchurch, 2.
  3RX—South Westland Branch N.Z.A.R.T. Inc. (Trustee, G. R. B. Bowman), Police Station, Hokitika.
                                                                                                                                                                             3UO—Hutton, F. W. A., 17 Manhire Street, Spreydon,
Christchurch, 2.
  3RY—Clark, E. J., 5 Albert Place, Christchurch 2. 3RZ—King, S. P., 386 Gloucester Street, Christchurch 1. 3SA—Gibbs, R. A., 11 Pandora Street, Christchurch, 7.
                                                                                                                                                                             3UP—McNicholl, M. W., 32 English Street, Christchurch, 4. 3UQ—Black, A. W., 48 Checketts Avenue, Halswell, Christchurch, 3.
  3SB-Riordan, A. A. C., 95 Crofton Road, Harewood, Christ-
                                                                                                                                                                             3UR—South Canterbury Branch N.Z.A.R.T. (Inc.) (Trustee, M. O. Johnstone), 32 Newton Street, Timaru. 3US—Houseman, W., 115 Warren Crescent, Christchurch, 2. 3UT—Hartley, D., 23 Wellington Street, Linwood, Christchurch, 1.
  SSD—Powell, M. B., 67 Harris Crescent, Christchurch, 5.
3SC—Shearman, G. D., 68 Proctor Street, Christchurch 5.
3SD—Powell, M. B., 67 Harris Crescent, Christchurch, 5.
3SE—Oxley, J. S., 11 Hanrahan Place, Riccarton, Christ-
church, 4.
                                                                                                                                                                             3UU—Gordon, M., 3 Rydall Street, Christchurch, 2.
3UV—Coles, L. F., 232 Shortland Street, Christchurch, 6.
3UW—Conroy, H., 51 Bellbrook Cres., Shirley, Christchurch 1.
3UX—Wass, L. H., 1 Kissell Street, Templeton, Christchurch,
  3SF-Maloney, J. N., 31 Middlepark Road, Christchurch, 4.
     3SG---
  3SH-Gourdie, W., 18 Anvers Place, Spreydon, Christchurch,
  3SI—Little, G. W., 81A Banks Avenue, Christchurch, 6. 3SJ—Fraser, G. J., 206 Major Hornbrook Rd., Christchurch, 8. 3SK—Pattrick, T. L., 422 Innes Road, Christchurch, 5. 3SL—Leeming, D. S., 621 Gloucester Street, Christchurch 6. 3SM—Driver, K. R., 18 Wildberry Street, Christchurch, 2. 3SN—Oldham, J. E., 40 Russell Street, Westport. 3SO—Kilkelly, J. W., Haselden Street, Westport. 3SO—Kilkelly, J. W., Haselden Street, Westport.
                                                                                                                                                                             3UY—Dobson, E., Clandeboye, Temuka.
3UZ—McKenzie, C. D., 333 Wainoni Road, Christchurch, 7.
                                                                                                                                                                             3VA—Williams, D. T., 13 Liggins Street, Christchurch, 6. 3VB—Winter, D., 8 Baretta Street, Christchurch 2.
                                                                                                                                                                              3VC-Walton, W. E., 74 Paten Street, Christchurch 6.
  3SP—Allan, J. L., 102 Warrington Street, Christchurch, 1.
3SQ—van Valkenburg, V. M., 30 Tuckers Road,
Christchurch 5.
                                                                                                                                                                               3VE-
                                                                                                                                                                              3VF-Breen, A. I., 45 Glandovey Road, Christchurch, 5.
  3SR—Webster, R. D., Flat 3, 45 Peverel St., Christchurch 2, 3SS—Langrish, T. F., 36 Bowenvale Avenue, Christchurch, 2, 3ST—New Zealand Army Signals, 3 Squardon (Trustees, D. S. McKenzie and G. D. Slocombe, Addington Military Barracks, Christchurch.
                                                                                                                                                                             3VH—Reilly, A. C., 6 Jocelyn Street, Christchurch, 5.
3VI—Meade, M. P., 9 Nile Street, Timaru.
                                                                                                                                                                              3VJ-MacGeorge, A. A. G., 10 Manurere Street, Christ-
                                                                                                                                                                                                      church, 4.
                                                                                                                                                                              3VK-Lawrence, J. E., 25 Andrew Street, Timaru.
      3SU-Phillips, D. I., Market Cross, Karamea.
  3SV—Watson, G. L., 22 Kimberley Street, Christchurch 5. 3SW—Whitehead, W. S., 22 Cranbrook Ave., Christchurch, 5. 3SX—Silcock, F. N., 26 Sylvia Street, North Brighton, Christchurch, 7.
                                                                                                                                                                              3VL-Ellen, S. N., 65 Dunedin Street, Papanui North, Christ-
                                                                                                                                                                                                       church, 5.
                                                                                                                                                                                 3VM-Maloney, M. E., 20 Cleveland Street, Christchurch 1.
                                                                                                                                                                             3VN—Bradley, J. N., 169 Weston Road, Christchurch, 5. 3VO—Elder, J., 76 Bickerton Street, Christchurch, 6. 3VP—Bradshaw, G. J., 159 Ashgrove Terrace, Christchurch 2.
  3SY—Thomas, P. A., 270 Centaurus Road, Christchurch, 2. 3SZ—Dalrymple, D. L., 65 Frankleigh St., Christchurch, 2. 3TA—Ritchie, M. V. H., 11 Hands Road, Hillmorten, Christchurch, 2.
                                                                                                                                                                              3VQ-Senior, J. P., c/o Tai Tapu Post Office.
church, 2.

3TB—Somerville, J. D., Kaniere, via Hokitika.

3TC—Brett, T. M. (Mrs), 17 Josephine Street, Greymouth.

3TD—Perkins, J. A., 197 Ilam Rd, Fendalton, Christchurch 4.

3TE—Turner, J. N., 8 Roseneath Place, Christchurch, 2.

3TF—Isles, P. R., 50 Woodville Street, Christchurch, 1.

3TG—Copland, G. M., 11 Peel Street, Christchurch 5.

3TH—Gould, P. N., No. 10 R.D., Waimate.

3TI—Button, B. H., 86 Lake Terrace Road, Burwood, Christchurch, 6.

3TJ—Currie, W. J., 151 Westminster Street, Christchurch.

3TK—Martin, D. F., 28 High Street, Greymouth.
                                                                                                                                                                             3VR-Ross, A., 35 Purau Avenue, Diamond Harbour.
                                                                                                                                                                               3VS--
                                                                                                                                                                              3VT-Grenon, J. W., 58 Monks Spur Road, Redcliffs, Christ-
                                                                                                                                                                                                      church, 8.
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3VU-Hayes, R. S., Manse Road, Leeston. 3VV—Hornby and District Radio Club (Trustees: A. W. Black and A. F. Gledhill), 140A Holmes Park Reserve, English Street, Christchurch, 4. 3VW—Winskill, I. E., Caverhill, No. 1 R.D., Cheviot. 3VX—Parry, R. I., 37 Greenpark Street, Hoon Hay, Christ-church, 2.

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ZL--
     3VY-
                                                                                                                                                               3ABM-Armstrong, S. R., 53 Flay Crescent, Christchurch, 5.
  3WA-Devlin, P. J., Catholic Presbytery, Craigie Avenue,
                                                                                                                                                               3ABO-Hendry, B. O., 95 Springs Road, Christchurch 4.
                         Timaru.
                                                                                                                                                                  3ABP-
      3WB-Russell, J., 3 Hussar Place, Christchurch 2.
                                                                                                                                                              3ABP—
3ABQ—Hussey, E. C., 299 Waimairi Road, Christchurch, 4.
3ABR—MacPherson, V. R., 40 Fovant St., Christchurch, 4.
3ABS—Smith, G. B., 117 Somerfield St, Christchurch 2.
3ABT—Venturer Unit, Fendalton Scout Group Radio Club
(Trustee, A. B. Thornton, 7 Idris Road, Fendalton,
  3WC-
  3WD—Gilbert, G. R., 3 Lyttelton Street, Lincoln.
3WE—Longson, H. J. O., 21 Kinnaird Place, Spreydon,
Christchurch, 2.
 3WF—Wade, D. L., 27 Telford Street, Christchurch, 6.
3WG—Baird, J. F., 98 Studholme Street, Christchurch, 2.
3WH—St. Andrew's College Radio Club (Trustee, G. W. Little), Papanui Road, Christchurch, 5.
                                                                                                                                                                                      Christchurch, 5.
                                                                                                                                                              3ABU—Cashmere High School Radio Cluub (Trustee, W. N. Lenz), Rose Street, Cashmere, Christchurch, 2.
3ABV—Jackson, P., McQueens Road, Cheviot.
3ABW—Canterbury University Electronics Society (Students' Association) (Trustees, E. J. Allan and T. L. Patrick), University of Canterbury, Ilam, Christ-
 3WJ—Young, W. H., Flat 1, 23 Carlton Mill Road, P.O. Box 25058 Christchurch.
3WK—Martin, E. (Mrs), 867 Ferry Road, Christchurch 2.
3WL—
                                                                                                                                                              3ABX—Lovett, G. L., 81 Grove Street, Tinwald.
3ABY—Cuttle, T. R., C/o ANZ Bank, Christchurch.
3ABZ—Churchill, T. S., 5 Albert Street, Ashburton.
3ACA—Wilmshurst, C. W., 17 Stourbridge Street, Christchurch, 2.
 3WM—Oliver, J. A., 50 Twyford Street, Bryndwr, Christ-
church, 5.
3WN—Askey, G., 14 Gilby Street, Christchurch 1.
3WO—Welsh, L. D., 18 Woodland Place, Christchurch 7.
                                                                                                                                                              3ACB—Mollison, G. W. P., 148 Kendal Ave., Christchurch, 5. 3ACC—Chambers, C. H., 19 Avro Crescent, Christchurch 4.
 3WP-Reefton-Buller Branch NZART (Trustee, T. E. Wallis)
 88 Wakefield Street, Westport.
3WQ—Mackey, C. J., 58 Firth Street, Cobden, Greymouth.
3WR—Martin, V. E., 867 Ferry Road, Christchurch 2.
                                                                                                                                                                 3ACD-
                                                                                                                                                               3ACE-Dodgshun, J. C., 20 Rugby Street, Merivale, Christ-
                                                                                                                                                         3ACE—Dodgshun, J. C., 20 Rugby Street, Meritale, church, 1.
3ACF—Richardson, J. T., 3 Monowai Cres., Christchurch, 7.
3ACG—Heyward, K. W., 61 Niven Street, Christchurch, 7.
3ACH—Edginton, A. L., 103 Grants Road, Timaru.
3ACI—Shirley Boys' High School Radio Club (Trustees, C. J.
Wornall and M. O. Milner), North Parade, Christ-
 3WS-Christchuhch Branch N.Z.A.R.T. (Trustee, D. J. Mac-
                   kay), Galbraith Avenue, Christchurch, 2.
 3WT—Duncan, M. W., 7 Hinton Road, Greymouth. 3WU—Jeffery, I. W., Schoolhouse, Chertsey. 3WV—Rigby, F., 54 Greenpark Street, Christchurch, 2.
                                                                                                                                                                                     church, 1.
 3WW-Werry, B. W., 123 Dyers Pass Road, Christchurch, 2.
                                                                                                                                                              3ACJ—Parker, T. L., 28 Brent Place, Christchurch, 5. 3ACK—Leeming, N. V., 48 Woodward Terrace, Christchurch,
 3WX—Smellie, B., 19 Greenfield Place, Christchurch, 5.
3WY—Campbell, B. E., 10 Coronada Place, Christchurch, 4.
3WZ—Wallis, T. E., 88 Wakefield Street, Westport.
3AAA—Garlick, R. A., 23 Lydia Street, Greymouth.
3AAB—Garlick, Mrs Z. H., 23 Lydia Street, Greymouth.
                                                                                                                                                              3ACL—Lemon, K. A., 4 Dufek Crescent, Christchurch, 4. 3ACM—Eaton, I. L., 479 Madras Street, Christchurch 1. 3ACN—Honey, R. M., 167 Brittan Street, Hokitika. 3ACO—Brown, N. W., 20 Sydney Street, Spreydon, Christchurch, 2.
 3AAC---
 AAD—Alderson, G. E., 14 Lombard Place, Christchurch, 4. Christchurch, 1.
                                                                                                                                                                  3ACP—Saint Patrick's High School Radio Club (Trustee Fr.
D. J. Devlin), Wellington Street, Timaru.
 3AAE-Millard, H. W., 41 Jeffreys Road, Christchurch, 5.
 3AAF—McClimont, D. J., 6 Leistrella Road, Christchurch 2. 3AAG—Batterbury, C., 127 Pages Road, Christchurch, 6.
                                                                                                                                                               3ACR-Weston, D. V., 33 Fovant Street, Christchurch.
                                                                                                                                                              3ACS—Borgfeldt, C. D., 37 Blankney Stret, Hornby, Christ-
church, 4.
3ACT—Patten, G. J., 435 Lower Styx Road, Christchurch, 5.
3ACU—McKay, B., 23 Palmside Street, Christchurch, 2.
3ACV—Hickmn, K. K. A., 46A Division Street,
Christchurch 5.
 3AAH-O'Brien, W. M., 255 Estuary Road, Christchurch 7.
 3AAI-
 3AAJ-Werner, S. H., 74 Seven Mile Road, Runanga.
 ЗААК---
   3AAL—Allan, E. J. (Mrs), 44 Marshland Road,
Christchurch 6.
                                                                                                                                                              Christchurch 5.

3ACW—Crawford, W. E. H., 29 Bounty St., Christchurch, 5.

3ACX—Robbins, K. F., 83 Springfield Road, Christchurch, 7.

3ACY—Lander, C. R., 47 Bush Street, Rangiora.

3ACZ—Ingram, R. T., 80 Romilly Street, Westport.

3ADA—Bell, R. W., 32 Flower Street, Christchurch, 5.

3ADB—Jacobs, P. S., 124 Southampton St., Christchurch, 2.

3ADC—Hale, K. I., 99 Hoon Hay Road, Christchurch, 2.

3ADD—Mahoney, M. F., St Bedes College, Main North Road, Christchurch, 5.
 3AAM—Pennington, M. H., 43 Suva Street, Christchurch 4.
3AAN—Colville, L. M., 75 Cameron Street, Ashburton.
 BAAP—Ashburton Air Scout Group (Trustee, A. J. Mar-
shall), Manio-o-roto Park, Chalmers Avenue,
                        Ashburton.
 3AAQ—Banks, L. F., Buller Gorge, Private Bag, Westport, 3AAR—Robinson, B. S., 8 Breens Road, Christchurch, 5.
                                                                                                                                                              3ADE—Ayre, G., RNZAF Station, Wigram, Christchurch, 4. 3ADF—Schroeder, W. F., 66 Shakespeare Street, Greymouth. 3ADG—Burnside High School Radio Club (Trustee, D. W. Anderson, Greers Road, Christchurch, 5.
 3AAT—Hooper, R. L., 24 Woodbury Street, Christchurch, 4. 3AAU—Miller, J. G., 30 Fairfield Street, Christchurch 5.
 3AAV-Hart, L. J. W., 61 Wakefield Street, Westport.
 3AAX-Clark, E. R., 5 Chedworth Avenue, Christchurch, 5.
                                                                                                                                                              3ADH—Boote, R. J., 8 Hinton Road, Greymouth. 3ADI—Ingram, A. W. W., 67 Parkstone Avenue,
 3AAY—Bowie, A. F. S., 99A St Andrews Square, Christ-
church 5.
                                                                                                                                                              Christchurch 4.

3ADJ—Jennings, L. W., 5 llex Place, Kaiapoi.

3ADK—Fitzgerald, K. P., 43 Sevenoaks Drive, Christchurch 5.

3ADK—Lenz, W. N., 139B Hackthorne Road, Christchurch, 2.

3ADM—Milner, M. O., 36 Hammersly Ave., Christchurch, 1.
 3AAZ-Allan, L. L. (Mrs), 102 Warrington Street, Christ-
church, 1.

3ABA—Allan, S. L., 102 Warrington Street, Christchurch, 1.

3ABB—McKay, D. J., 55 Wingate Street, Christchurch, 5.

3ABC—Hooker, R. O., 272 Wainoni Road, Christchurch, 7.

3ABD—Hancock, C. W. I., 21 Sparks Road, Spreydon, Christchurch 2.
                                                                                                                                                             3ADN—Lowther, B. L., Rosstown, Reefton.
3ADO—Bramley, K. J., 198 Greers Road, Christchurch, 5.
3ADP—MacDonald, D. C., Cnr Railway Terrace and Elizabeth
Avenue, Rakaia.
3ABE-
                                                                                                                                                             3ADQ—Filicky, S. V., 242 Fitzgerald Avenue, Christchurch 1.
3ADR—Pritchard, B. D., 9 Dymock Place, Christchurch, 5.
3ADS—Squire, D. D., Waitohi, Temuka.
3ADT—Troon, P. M., 92 Michael Street, Rakaia.
3ADU—McGlinn, A. J., 42 Lambeth Crescent, Christchurch, 5.
3ADV—Phillips, R. W., 31 Appleby Crescent, Christchurch, 5.
3ADW—Phillips, Mrs H. J., 31 Appleby Crescent, Christchurch, 5.
3ABF—Webbink, J. H., 11 Wattle Drive, Christchurch, 7. 3ABG—Winter, M. F., 19 Kaplan Avenue, Christchurch, 4.
3ABH-Daniel, E. H., 189 Buchanans Road, Christchurch 4.
3ABI—Hagley High School Radio Club (Trustee, A. S.
Asher), Hagley High School, Hagley Avenue, Christ-
                  church,
3ABJ—Jensen, B. D., 51 Parklands Drive, Christchurch 2. 3ABK—Keen, R. A., 36 Lindsay Street, Timaru. 3ABL—Brookes, I. A., 34 Allnatt Street, Temuka.
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3ADY-Cady, F. M., 52 Aorangi Road, Christchurch, 5.

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3ADZ—Carney, W. J., Flat 6, 92B Middlepark Road,
Christchurch 4.
3AFA—Kelly, C. W. B., 318 IIam Road, Christchurch 5.
                                                                                                                                                                                                  3TCP-Parish, I. J., 98 Richard Pearse Drive, Temuka.

STCK—Ching, K. E., 6 Rata Street, Rangiora.
STCS—Sandford, B. D., 45 Torrens Road, Christchurch, 2.
STCT—Inglis, J. McN., 290 Estuary Road, Christchurch, 7.
STCU—Duxbury, J. S., 12 Rydal Street, Christchurch, 2.
STCV—Drayton, G. W., 113B Rockinghorse Road, Christchurch, 7.
STCW—Wilson, J. G. Washduka, Timarki.

    3AFC—Clausen, A. F., 26 Tirirau Place, Christchurch 4. 3AFJ—Jacobson, A. F., 9 Gainford Street, Christchurch.
    3TAA—
3TAB—Hyde, I. E., 4 Powell Crescent, Christchurch.
3TAC—Collins, B. A., 21 Manor Place, Christchurch, 5.

3TAC—Collins, B. A., 21 Manor Place, Christchurch, 5.
3TAD—STAF—Wilson, M. J. G., 23 Vauxhall Street, Christchurch, 5.
3TAF—Ford, P. J., 38 Gardners Road, Christchurch, 5.
3TAG—Down, S. J., 219 Grahams Road, Christchurch, 5.
3TAH—Wignall, T. J. S., 15 Plynimon Road, Christchurch 5.
3TAI—Dumbleton, R. S., 1 Blighs Road, Christchurch 5.
3TAJ—Burgess, E. C. B., Flat 2, 24B Prossers Road, Christchurch, 2.
3TAK—Long, R. O., 103 Grey Street, Ashburton.
3TAL—Mackintosh, R. M., Main North Road, Ohoka R.D., Kaiappoi.

                                                                                                                                                                                                 3TCW—Wilson, L. C., Washdyke, Timaru.
3TCX—Tapp, M. I., 30 Jollie Street, Christchurch, 6.
3TCY—Watson, J. P., 49 Canada Street, Timaru.
3TCZ—Davis, N., 497 Cashel Street, Christchurch 1.
                                                                                                                                                                                                3TDA—
3TDB—Milne, O. D., 137 Southampton Street, Christchurch 2.
3TDC—Thomson, R. Y., 25 Princess Street, Temuka,
3TDD—Marks, J. W. J., 178A Lyttelton Street,
Christchurch 2.
                                                                                                                                                                                                 3TDE—Vos, P. M., 15 McSaveneys Road, Christchurch 5. 3TDG—Wood, M. K., 15 Ardmore Place, Christchurch 5.
                               Kaiapoi.
   3TAM—Mason, G. J., 6 Bideford Place, Christchurch, 6.
3TAN—Vanden Broek, C. P. A., 383 Greers Road,
Christchurch 5.
                                                                                                                                                                                                 3TDI—White, Q. D. L., 321 Withells Road, Christchurch 4. 3TDJ—Herbert, S. J., Levels, 4 R.D., Timaru.
   STAP—Craig, A. J., 22A Airken Street, Ashburton.
STAQ—Finlay, P. T., 36A Sturge Street, Cobden.
STAR—Roswell, A. .F. M., 2 Evans Ave, Christchurch, 7.
STAS—Harris, G. B., 57 Kensington Ave, Christchurch 1.
STAT—Baker, E. J. A., 93 King Street, Rangiora.
                                                                                                                                                                                                    3TDK-
                                                                                                                                                                                                 3TDL—Harris, J. R., 424 Marine Parade, Christchurch, 7.
3TDM—Harding, J. M., 641 Main North Rd, Christchurch, 5.
                                                                                                                                                                                                STDN—Tait, J. J., 30 Hargood Street, Christchurch, 6. 3TDO—Cottle, D. E., 427 Lower Styx Road, Christchurch, 5. 3TDP—Maclean, M. R., 6 Athol Place, Timaru. 3TDQ—Downey, E. J., 67 Tuckers Road, Christchurch 5. 3TDR—Smith, K. J., 17 Tyne Street, Timaru. 3TDS—Tombling, F., 4 Sarah Street, Timaru. 3TDS—Torury, B. D., 20 Ryland Avenue, Fendalton, Christchurch, 4.

    3TAV—Parr, W. B., 105 Springs Road, Christchurch 4.
    3TAW—Muir, D. N., 12 Manning Place, Christchurch 2.
    3TAX—Churchward, M. J., 211 Fifield Terrace, Opawa, Christchurch ,2.

3TAY—
3TAY—
3TAY—
3TAZ—Greer, R. B., 302 Greers Road, Christchurch, 5.
3TBA—Hall, A. N., 18 Waimairi Road, Christchurch, 4.
3TBB—McHugh, M. J., 10 Tilford Street, Christchurch 6.
3TBC—Grenfell, A. D., 25 Warblington Street, Christchurch 7.
3TBD—Symonds, A. C., 16 Beasant Place, Christchurch, 7.
3TBE—Pritchard, D. V., 2 Andrew Street, Timaru.
3TBF—Lander, R. C., 60 Victoria Street, Rangiora.
3TBG—O'Neill, T. J., 89 Pages Road, Christchurch, 6.
                                                                                                                                                                                                                          church, 4.
                                                                                                                                                                                                   3TDV—Wyles, G. L. M., 416 Memorial Avenue,
Christchurch 5.
                                                                                                                                                                                                3TDW----
                                                                                                                                                                                                   3TDX-Woods, B. M., 2 Cresswell Avenue, Christchurch 6.
                                                                                                                                                                                               3TDX—Modes, B. M., 2 Clesswell Avenue, Christchurch 6.
3TDX—Hayes, W. F., 90 Wright Street, Cobden.
3TDZ—Tasker, G. W., 58A Cobham Street, Christchurch 2.
3TFL—Malcolm, C. R., 14 Caledonian Road, Christchurch 1.
3TFA—Middlemiss, P. G., Otahunu House, Rhodes Road,
3TFB—Henden, J. R., 221 Innes Road, Christchurch, 5.
3TFC—Williams, I. G., R.N.Z.A.F. Base, Wigram.
3TFD—Rhodes, D., Highfield Avenue, Dunsandel.
 3TBI—Hosking, K. F., Cnr Shands and Blakes Road, 4 R.D.,
Christchurch.
    3TBJ—Baird, K. A., 18 Gray Crescent, Kaiapoi.
3TBK Foster, I. M., 30 Staveley Street, Christchurch 4.
                                                                                                                                                                                                3TFE-Emerson, R. W., 427 Hills Road, Christchurch, 5.
                                                                                                                                                                                               3TFF—Fuller, G. M., 79 Woolley Street, Christchurch, 7.
3TFG—McCulloch, E. N., 21 Norwich Street, Christchurch 6.
3TFH—Tait, J. D., 30 Hargood Street, Woolston, Christ-
church, 6.
     3TBM-Love, G. T., No. 2TTS, RNZAF Base, Wigram.
 3TBO—Hall, C. L., 20 Sumner Street, Spreydon, Christ-
church, 2.
                                                                                                                                                                                               3TFI—Wright, B. A., 38 Strowan oad, Christchurch, 5. 3TFJ—Lundy, R. J., 47 White Street, Rangiora. 3TFK—Christian, J. D., 5B Sonia Place, Christchurch, 5.
  3TBP-Evans, J. S., 11 Eros Place, Christchurch 7.
  3TB0-
  3TBR-Black, D. R., 51B Marsden Avenue, Greymouth.
 3TBS—Stevenson, R., 39 Everest Street, Christchurch, 5.
3TBT—Lee, M. O., 82 St. Martins Road, Christchurch, 2.
3TBU—Knight, B., 115 Main South Road, Greymouth.
3TBV—Heazlewood, C. R., 4 Westmorland Place, Christchurch 4.
                                                                                                                                                                                                  3TFM-
                                                                                                                                                                                                3TFO-
                                                                                                                                                                                                3TFP-Vincent, R. K., 5 Miro Street, Karoro, Greymouth.
 3TBX-Wylie, P. B., 101 Englefield Road, Belfast, Christ-
                                                                                                                                                                                                3TFR—Talbot, I. C., 290 Montreal Street, Christchurch 1.
3TFS—Soal, D. F., 115 Creek Road, Ashburton.
                             church, 5.
                                                                                                                                                                                                  3TFT-Codd, L. B., 74 Hewitts Road, Christchurch 1.
 3TBZ—Sintes, P. D., 410 Cashmere Road, Christchurch, 3. 3TCA—White, A. S., 321 Withells Road, Christchurch, 4. 3TCB—Ashley, K. J., 16 Rugby Street, Waimate.
                                                                                                                                                                                               3TFV—Jeffery, K. R., 20 Kinloch Street, Christchurch, 1. 3TFW—Baker, T. L., 6 Burnett Street, Timaru.
3TCB—Ashley, K. J., 16 Rugby Street, Waimate.
3TCC—Heney, R. D., 15 Rhodes Street, Timaru.
3TCD—McGregor, W. L., 28 Swanns Road, Christchurch 1.
3TCE—Cobb, P. B., 351 Lyttelton Street, Christchurch, 2.
3TCF—Newton, G. R., 30 Tomes Road, Papanui, Christchurch, 5.
3TCG—Uden, B. G., Claremont Road, R.D. 4, Timaru.
3TCH—Chapman, M. H., 122 Pine Avenue, Christchurch 7.
3TCI—Barwick, L. G. A., 54 Chancellor Street, Christchurch.
3TCJ—Harbeck, A. D., 28 Martbern Crescent,
Christchurch 5.
                                                                                                                                                                                              3TFY—Tizzard, R. W., 12 Rosebery Street, Christchurch, 2. 3TFZ—Wilson, D. W. T., Seafield, No. 7 R.D., Ashburton. 3TGA—Aitken, G. D., 38 Hooker Avenue, Bryndwr, Christchurch, 5.
                                                                                                                                                                                               3TGB—Hancock, S. C., 21 Sparks Road, Spreydon, Christ-
church, 2.
                                                                                                                                                                                              3TGC—Whitlow, T. J., 84 West Belt, Rangiora.
3TGD—Digby, N. M., 14 Exeter Street, Christchurch, 1.
3TGE—Carter, D. R., Mt. Gay, Pleasant Point.
3TGF—Rae, P. D., 7 Westmoreland Place, Christchurch, 5.

3TCL—Hamilton, J. C., 178 Halswell Junction Road,
Christchurch 2.
3TCM—Rickerby, D. R., 31 Kendal Avenue, Christchurch, 5.
3TCN—Money, G. N. C., 26 A Tankerville Road,
Christchurch 2.
3TCO—Pearcy, E. A., 239 Condell Avenue, Papanui, Christchurch, 5.

                                                                                                                                                                                              3TGG—Rusbatch, G. D., 86 Stanbury Ave, Christchurch, 2
3TGH—Bell, H. R., Upper Parsonage Road, Waimate.
```

3TGI-Lintott, N., Ohoka Road, Ohoka, Kaiapoi RMD. 3TGJ-Galletly, I. L., 26 Mundys Road, Christchurch, 6. 3TGK Brown, P. G., Acton Road, Rakaia. 3TGL—Van Lindt, R., 34 Gayhurst Road, Christchurch, 6. 3TGO-Goossens, W. E., 35 Banbury Street, Christchurch, 5. 3TGQ—Sintes, D. J., 481 Marine Parade, Christchurch, 7. 3TGR—Timewell, I. D., Orton R.D., Timaru. 3TGT—Thompson, P. R., 59 Seven Oaks Drive, Christ-church, 5. 3TGV—Rowe, B., 250 Grahams Road, Christchurch, 5. 3TGW—Hamlett, R. S., 9 Hoani Street, Christchurch 5. 3TGX—Henry, D. H., 34 Alexandra Street, Christchurch, 1. 3TGY—Douglas, J. C. (Miss), C/o Post Office, Millerton. 31GZ—3THA—Stirling, K. W., 85 Grey Street, Ashburton.
3THA—Stirling, K. W., 85 Grey Street, Ashburton.
3THC—Holden, R. W., 454 Colombo Street, Christchurch, 2.
3THD—King, A. F., 471 Worcester Street, Christchurch 1.
3THE—Bartlett, K. E., 1 R.D., Westport. 3THG-3THH—Smith, G. R., 110 Pages Road, Christchurch, 6. 3THI—Hurrell, M. A., 1 Helmores Lane, Christchurch, 1. 3THJ—Hilson, H. R., 116 Heaton Street, Christchurch, 5. 3THK—Errington, G. S., 18 Fendalton Road, Christchurch, 1. 3THL—Clifford, I. R., R.N.Z.A.F. Base, Wigram. 3THM—Sandford, N. D., 45 Torrens Road, Hillmorton, Christchurch, 2. 3THN—Price, G. D., 83 Kerrs Road, Christchurch 6. 3THO—Melhuish, B. J., 34 St Andrews Hill Road, Christ-church, 8. 3THP—Platt, R. G., 16 Boston Ave., Hornby, Christchurch, 4. 3THQ—Corbett, R. K., 1 Dalton Place, Christchurch, 5. 3THS—Dixon, A. P., Flat 5, 98 Papanui Rd, Christchurch. 3THT—Lauder, C. D., 100 Papanui Road, Christchurch 1. 3THU—Barlass, R. J., 18A Lincoln Road, Christchurch 2. 3THW-Dawson, R., 41 Garlands Road, Christchurch, 2. 3THX-Ferriss, A. E., 50 Marriner Street, Christchurch, 8. 3THY—
3THY—East, K. R., RNZAF Base, Wigram.
Tai Tapu.
3TIA—Milne, I. F., 137 Southampton St., Christchurch, 2.
3TIB—Jones, D. L., 53 Wales Street, Christchurch, 3.
3TIC—Lowrie, B. D., 7 Cunningham Place, Christchurch, 5.
3TID—Dyer, W. M., 25 Bronwyn Street, St. Albans, Christchurch, 5. 3TIE-Inglis, J. A., 76 Butterfield Avenue, Christchurch, 6. 3TIF-Novotny, V. G., 47 Nicholls Street, Christchurch 1. 3TIH—Britnell, C. B., 35 Wales Street, Christchurch 3. 3TII—Freeth, G. D., 5 Irvine Street, Christchurch, 2. 3TIJ-Freeth, C. A., 5 Irvine Street, Christchurch 2. 3TIL—Errington, J. C., 39 Helmores Lane, Christchurch 1. 3TIM—Barbour, G. S., 294 Hereford Street, Christchurch 1. 3TIN-Prattley, R. H., 15 Waratah Street, Christchurch 7. 3T10-O'Brien, C. M., 255 Estuary Road, Christchurch, 7. 3TIP—Brunton, C. N., 26 Woolley Street, Christchurch, 6. 3TIQ—Mulvena, M. J., Collinsons Road, Seafield, 7 R.D. Ashburton. 3TIR—Williams, P. S., 24 Newnham Terrace, Christchurch, 4. 3TIS—Carleton, G. R., 2 Rayburn Avenue, Christchurch, 5. 3TIV—Greager, D. C., 22 Waitohi Street, Christchurch, 4. 3TIV—Rodgers, G. K., 36 Coopers Road, Christchurch, 6. 3TIW—Whelan, P. N., 4A Norwood Street, Timaru. 3TIX-3TIY—Johnson, R. D., 5 Bygrave Place, Christchurch, 5. 3TIZ—Chappell, P. J., St Andrews College, Papanui Road, Christchurch, 1. 3TJB-3TJC-O'Connor, G. G., 7 Snell Place, Christchurch, 6. 3TJD—Moffatt, S. Z., 36A Nile Street, Timaru. 3TJE—Symes, A. C. O., Franks Road, 6 R.D., Ashburton. 3TJF—Sunders, B. C., 14 Stackhouse Ave., Christchurch, 5. 3TJG—Blee, A. R., Ashton, 4 R.D., Ashburton.

3TJH-Robinson, P. J., 165 Cashmere Road, Christchurch, 2.

3TJI—Fright, W. R., Koromiko Crescent, Diamond Harbour.
3TJJ—Ward, A. J., 82A Randolph Street, Christchurch, 6.
3TJK—Price, J. G., 9 Banks Street, Timaru.
3TJL—Stewart, E. A., 30 Breens Road, Christchurch, 5.
3TJM—Dillon, G. A., 17 Martin Avenue, Christchurch, 5.
3TJN—Fell, C., 11 Shelley Street, Rolleston.
3TJO—Barth, M. J., 16 Tui Street, Christchurch 4.
3TJP—O'Brien, J. R., 7 Armitage Road, Christchurch 5.
3TJQ—Ives, B. A. P., 51 Hillier Street, Christchurch, 2. 3TJR—Carter, R. S. 275 Wai-iti Road, Timaru.
3TJS—Gordon, I. N., 7 Jameson Avenue, Christchurch 5.
3TJT—Nicol, J. R., 54 Rue Balguerie, Akaroa.
3TJU—Hawker, B. C., 130 Innes Road, Christchurch 5.
3TJV—Osborne, K. W., 53 Kent Street, Timaru.
3TJW—Pyle, S. W., 17 Hudson Street, Christchurch 5. 3TJX-3TJY-Allan, S. E., (Mrs), 102 Warrington Street, Christchurch 1. 3TJZ—McKim, J. L., 17 Wattle Drive, Christchurch 7. 3TKA—Phillips, M. A., 1A Cave Terrace, Christchurch 8. 3TKB—Melville, G. B., 50A Dyers Pass Road, Cashmere, Christchurch 2. 3TKC-Clark, B. W., 185 Waimairi Road, Christchurch. 3TKD---3TKE-3TKF-Seed, B. V., 18 Arthur Street, Christchurch 4. 3TKG-Woods, P. W., 63 Bainton Street, Christchurch 5. 3TKH-Crase, G. E., 52 Cobden Street, Westport. 3TKI—Engson, T. M., 303 Colombo Street, Christchurch 1.
3TKJ—Kendall, N. A., 76 Geraldine Street Christchurch 1.
3TKK—Chapman, A. F., 17 Baker Street, Ashburton.
3TKL—Lawry, D. W., 112 Westminister Street,
Christchurch 1.
3TKM—Watson, E. W., 35 Retreat Road, Christchurch 6.
3TKN—Hill, J. R. 163 Ilam Road, Christchurch 4.
3TKO—Wells, A. L., 77 Ilam Road, Christchurch 4. 3TKQ—Graham, W., 2 Head Street, Christchurch 8. 3TKR—Dwyer, D. S., 47 Wainoni Road, Christchurch 6. 3TKS—Chapman, A. S., 7 Dellow Place, Christchurch 2. 3TKT-3TKU-Snushall, J. G., "Conway Hills", Private Bag, 3TKU—Snushall, J. G., "Conway Hills", Private Bag, Kaikoura. 3TKV—Lang, A. N., Harwarden R.D. North Canterbury. 3TKW—May, G. A. (Miss), 371 Halswell Road, Christchurch 3. 3TKX—Patterson, H. W., 33 Leinster Terrace, Lincoln. 3TKY—Frew, W. R., 10 Palmer Street, Rangiora. 3TKX—Creek, A. R., 106 Banks Avenue, Christchurch 6. 3TLA-Graham, G. J., Flat 2, 699 Worcester Street, 3TLA—Graham, G. J., Flat 2, 699 Worcester Street, Christchurch.
3TLB—Crawford, C. R., 238 Pine Avenue, Christchurch 7.
3TLC—Kelly, S. J. C., Flat 2, 23 Percival Street, Christchurch 2.
3TLD—Ware, P. M., 305 Worcester Street, Christchurch 2.
3TLE—McCutcheon, J. M., 52 Scarborough Road, Christchurch 8.
3VHF—Christchurch Branch N.Z.A.R.T. Inc. (Trustees D. J. Mackay and H. F. Arnold). (Beacon station located at 196 Dyers Pass Road).

AMENDMENTS

FOURTH DISTRICT

ZL— 4CT—Southland Boys' High School Radio Club (Trustee: T. W. M. Duerden), Herbert Street, Invercargill. 4AA-Bell, F. D., Private Bag, Shag Valley Station, Palmer-4AB—
4AC—Robinson, R. E., 94 Moana Crescent, Dunedin.
4AD—Bradwin, C. C., Wharemoa, Popotunoa, 1 R.D., Clinton.
4AE—Surridge, A. D., 268B Pine Hill Road, Dunedin.
4AF—Falconer, A. E., Whiterig, No. 1 R.D. Gore.
4AG—Boshier, R. F., 379 Pinehill Road, Dunedin.
4AH—Sansom, W. R., 17 Renfrew Street, Dunedin.
4AI—Shore, K. H., 1 Upland Street, Dunedin.
4AJ—Richardson, A., 90 Ravelston Street, Dunedin, E.1.
4AK—Dowman, W. F., House 22, Aviemore Hydro, Private
Bag, Otematata.
4AL—Grubb, A. H. McL., 19 Thomas Street, Gore.
4AM—Earland, F. P., 88 South Rd., Burnside, Green Island.
4AN—Tunnicliffe, W. M., 32 Holyhead Road, Outram. 4AB---4CV—Walsh, G. J., 30 Mure Street, Mosgiel. 4CW—Macandrew Intermediate School Radio Club (Trustee, J. T. Irving, Macandrew Road, Dunedin).
4CX—Warburton, N. O. (Mrs), 147 Forth St., Dunedin, N.1.
4CY—McNeill, T. J., 39 Eton Street, Otautau.
4CZ—Brain, E. R., 38 Cranley Street, Dunedin.
4DA—Harman, I. A., 49 Alexander Street, Green Island. 4DB-4DC— 4DD—Anderson, R. A., 39 Glendining Avenue, Dunedin. 4DE— 4DF—Macaulay, W. V., 7 Stirling Street, Dunedin, E.1. 4AN—Earland, F. P., 88 South Rd., Burnside, Green Island.
4AN—Tunnicliffe, W. M., 32 Holyhead Road, Outram.
4AO—Allan, A. N., Charlton, No. 4 R.D., Gore.
4AP—Smith, R. C., Pine Bush, No. 5 R.D., Invercargill.
4AQ—Whyte, R. A., 7 Charles Street, Gore.
4AR—Natta, H. W., 137 Bayview Road, St. Kilda, Dunedin,
S.2.
4AS—Morris, C. C., 46 Ascot Street, Dunedin.
4AT—Treweek, C. A. (Mrs), 9 Layard Street, Invercargill. 4DG 4DH-4DJ-Austin, A. J., Riversdale. 4DK—Hunter, S. T., 4 Matai Street, Invercargill. 4DL—Leslie, A. J., 8 Stanley St., Mornington, Dunedin, W.1. 4DM—Crockett, W. M., Glenpark, Dunback Rd, Palmerston. 4DN—Sharp, J. R., 41 Greenhill Avenue, Wakari, Dunedin, N.W.2. 4DO—Dunstan High School Radio Club (Trustee: J. G. Wilkinson), Enterprise Street, Alexandra. 4AV-Pickford, L. C., Taiepa Road, Otatara, R.D. 9, Invercargill.

4AW—Pickford, W. J., Black Road, Otatara, 9 R.D., Invercargill. 4DP—Grant, J., 155 Eden Street, Oamaru. 4DQ—Wilson, A. B., 105 George Street, Invercargill. 4DR—Irving, J. T., 28 King Street, Mosgiel. 4AX—Duff, B. F., 69 Elderlee Street, Milton. 4AY—McLeod, J. H., 2 Derwent Street, Invercargill. 4AZ—Sidey, T. K. S., 16 Tolcarne Avenue, Dunedin, N.W.1. 4DS—Carr, D. W., 46 Saunders Street, Dunedin. 4DT—Collett, K. (Mrs), 29A Duncan Street, Dunedin, C.2. 4DU—Stiglish, C. A., 58 Argyle St., Mornington, Dunedin, 4BB—Chapman, H. J., 38 Hargest Crescent, Dunedin. 4BC—Ferris, J. L., Manuherikia Road, Alexandra. 4BD—Helean, F. P., 1A Passmore Crescent, Dunedin, W.1. W.1. W.1.
4DV—Shand, J. J., 11 Argyle Street, Dunedin.
4DW—McLeod, R. W., 5 Richardson St., St. Kilda, Dunedin.
4DX—Anstice, S. R., 293 York Place, Dunedin, N.1.
4DY—Carlyle, A. L. G., 147 Queen Street, Dunedin, N.1.
4DZ—Marshall, W. M., 17 Corstorphine Road, Dunedin.
4FA—Miles, T. H., 363 Racecourse Road, Invercargill.
4FB—Raper, T. C., Lincoln Street, Hampden.
4FC—McLaren, A. D., 16 Melbourne Street, South Dunedin.
4FD—Hedge, H. G., 52 Earls Road, Dunedin. 4BE—Whitely, F., 31 Maybank Street, Opoho, Dunedin. 4BF—Smith, L. K., 110 Dome Street, Invercargill. 4BG—Mitchell, J. R., NZBC, Highcliff, R.D. 2, Dunedin. 4BH—Howard, B. H., 33 Malvern St., Woodhaugh, Dunedin, N.1. 4BJ—Rowe, C. R., 70 Slaney Street, Bluff. 4BK—McDonald, N. M., 16 Howard Street, Macandrew Bay, Dunedin. 4BL-Wilson, W. F., 4 Wynyard Street, Dunedin. 4FF—Nisbet, A. J., 5 Greenock Street, Dunedin, N.W.2. 4FG—Russell, W. J., 255 Yarrow Street, Invercargill. 4FH—Hall, J. N., 8 Watkin Street, Dunedin. 4BM-Ashley, F. O., Rata Road, Otatara R.D. 9, Invercargill 4BN—Collett, D. K., Halfmoon Bay, Stewart Island, 4BO—Jackson, V. R., 47 Lorn Street, Invercargill, 4BP—Collett, W. G., 29A Duncan Street, Dunedin, C.2. 4FI—Wilkinson, J. G., 77 Russell Street, Alexandra. 4FI—Austin, F. J., 8 Dunblane Street, Dunedin. AFK—Dodds, R. B., 9 City Road, Dunedin, N.W.1.

4FK—Farquharson, D. A., Signal Hill, Dunedin.

4FM—Ramsay, K., 244A Herbert Street, Invercargill.

4FN—Egan, Mrs M. A., 152 Reith Street, Dunedin.

4FO—Fail, D. G., c/o N.Z. Electricity Dept., Manapouri. 4BR—Thompson, H. G., 47 Forth Street, Mataura. 4BS—Burnby, L. A., 135 Kakapo Street, Gore. 4BT---4BV—McConnell, J. R., 73 Banks Street, Invercargill. 4BW—Williamson, B. C., Horrace Street, Cromwell. 4BX—Anderson, J. L., 64 Main Road, Brighton, Dunedin. 4BY—Jenner, M. G., 23 Kenmure Road, Dunedin. FFP—McLeod, R. J., 134 Bay View Road. Dunedin.

4FQ—Ballantyne, R. E., 125 London Street, Dunedin.

4FR—Howard, J. G., 4 Hastings Street, Wakari, Dunedin.

4FS—Stevenson, R. F., 16 Upland Street, Dunedin.

4FT—Mitchell, G. L., 42 District Road, Sawyers Bay, Dunedin. 482—Harris, A. R., 31 Bush Road, Mosgiel.
4CB—Berry, D. C., 56 Highfield Terrace, Invercargill.
4CC—Checketts, Mrs C. V., 21 Highfield Ter., Invercargill.
4CD—Lunn, J., 4 Glencarron Street, Alexandra. 4FU-Thomson, G. B., Milford Street, Gore. 4FV—Sparrow, J. A., 13 Porterfield Street, Macandrew Bay, Dunedin.
4FW—Phillips, R. D., 10 Como Street, Dunedin, N.W.1.
4FX—Creswell, A. F., D.S.I.R. Auroral Station, P.B., Omakau.
4FY—Dunlop, R. M., 17 Sycamore Place, Invercargill. 4CE-Searle, J. H., 113 Eye Street, Invercargill. 4CF—McLaren, A. D., 16 Melbourne Street, South Dunedin. 4CG—Tatton, L. A., Awarua Radio, Private Bag, Invercargill. 4FZ—Finlay, C. S., 9 Rennie Street, Green Island, Dunedin, S.W.2. 4CH-Sprey, W. D., 209 Chelmsford Street, Invercargill. 4CI—Stewart, R. D., 34 Alva Street, Dunedin. 4CJ—Davie, R. S., 415 Herbert Street, Invercargill. 4CK—Wark, A. J., 31 Crammond Avenue, Dunedin. 4CL—Cameron, M. E. (Mrs), 46 Cargill Street, Dunedin. 4GA---4GC-Hayward, A. S., 12 Centennial Avenue, Balclutha. 4GE—Hurring, C. J., 3 Aotea Street, Dunedin. 4GF—Groth, M. J., 13 Beaconsfield Road, Portobello. 4CN—Peterson, A. McN., 26 Aotea Street, Dunedin, E.1. 4CO—Thomas, R. E., Avon Street, Athol. 4CP—Hunt, A. D., 79 Margaret Street, Invercargill. 4GG—Boddy, H. W., 14 Falcon St., Roslyn, Dunedin, N.W.1. 4GH—Culloty, H. F. J., 100 Cavell Street, Tainui, Dunedin. 4GI—Maclean, A. G., 196 Lamond Street, Invercargill. 4GJ—Service, T. R., 77 Carlisle Street, Invercargill. 4CR-Middleton, C. E., 36 Green Street, Mosgiel.

4CS-Hopgood, D. J., 107 Martin Street, Invercargill.

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4GK—
4GL—Carrick, W., 8 Howe Street, Dunedin.
4GM—Ellis, D. N., 9 Avenal Street, Invercargill.
4GN—Lodge, S. F., 35 Graham Street, Mosgiel.
4GO—Thomas, M. E., Roxburgh Power Station, Private Bag,
4GO—Inomas, M. E., Nobourgh Folks
Roxburgh.

4GP—Harris, Mrs E. J., 302 Ettrick Street, Invercargill.

4GQ—Southland Branch, N.Z.A.R.T. (Inc.). (Trustee, R. N. Checketts, 38 Melbourne Street, Invercargill.)

4GR—Earland, Mrs M. E., 88 Main Road South, Green Island,
 4GS—Graham, E. J. W., 317 Yarrow Street, Invercargill.
4GT—Skinner, L. C., Flat 10, Central Fire Station, Castle
Street, Dunedin.
          4GV—Seidelin, H. P., 22 Maryhill Terrace, Dunedin. 4GW—Staite, W. G., 165 George Street, Invercargill. 4GX—Collie, D. B., 48 Thurso Street, Invercargill. 4GY—Wills, M. E., 48 Purdue Street, Invercargill. 4GZ—Applegarth, G., P.O. Box 13, Mosgiel.
         4HA—
4HB—Russell, V. T., 39 Swinton Street, Invercargill.
4HB—Russell, V. T., 39 Swinton Street, Invercargill.
4HC—Waters, M. J., 13 Corrunna St., St. Kilda, Dunedin, S2.
4HD—Findlater, J. L. L., 51 Gormack Street, Balclutha.
4HE—Montgomery, A. M., 4 Hoylake Street, Outram.
4HF—Kindon, H. A. R., 53 Montague Street, Dunedin.
4HG—McNeill, S. J. E., 125 Musselburgh Rise, Dunedin.
4HH—Howell, B. C., 57 Chapman Street, Dunedin.
4HI—Bruce, F., 170 Pine Hill Road, Dunedin.
4HJ—Bulger, J. W. P., Thomas Street, Ranfurly.
4HK—
          4HL—Roberts, G. C., 31 Greenhill Avenue, Wakari, Dunedin, N.W.2.
4HM—McLean, D. H., 16 Dumblane Street, Dunedin.
4HN—Booth, W. J., Drummond, Southland.
          HP—Jopp, A. K., Kokonga, Central Otago.

4HQ—Williams, J. C., 133 Salford Street, Invercargill.

4HR—Harris, Mrs L. W., 302 Ettrick Street, Invercargill.
             4HS---
         4HU—James Hargest High School Radio Club (Trustee: F. Taylor), Layard Street, Invercargill.

4HV—Baxter, R. M., 16 Veint Crescent, Queenstown.

4HW—Robertson, K. W., 29 Lewis Street, Invercargill.
          HY—Paulson, R., St. Peters School, Kakapo Street, Gore, HY—Baxter, P. M. (Mrs), 16 Veint Crescent, Queenstown. HZ—Hulls, C. H., 46 Grey Street, Invercargill. HA—Baker, J. C., Wanaka. HB—Gray, E. J., 2 Hislop Street, Dunedin, N.E.1.
           41D-Hill, S. G., 54 Rhodes Street, Dunedin.
           41E-Mason, J. A., 29 Cannington Road, Dunedin.
          41F-Christie, J. B., 14 Shandon Road, Dunedin.
       41G-Fox, A. R. E., 39 David Street (P.O. Box 475), Inver-
                                cargill.
           41H-Frame, S. R., 38 Melbourne Street, Invercargill.
           411-
          4IL—Benson, J. A., 33 Mitchell Avenue, Dunedin. 4IK—Lucas, D. C., 49 Shotover Street, Queenstown. 4IL—Salmon, J. D., 7 Picardy Street, Dunedin.
          41M—Norton, J., Pukerau, Southland.
41N—Norrish, I. E., 178 Elles Road, Invercargill.
           410—Shuttleworth, H. L., 148 Conyers Street, Invercargill.
           41P_
           41Q-Knowles, D. C., 3 Watkin Street, Dunedin.
           4IR-Jensen, M. D., 24 Charlotte Street, Dunedin.
           41S-Smirk, B. A., 68 Cannington Road, Maori Hill, Dunedin.
           41T-Sawers, R. N., 32 Leckhampton Street, Caversham Glen,
                                Dunedin.
           41U-Swale, C. S., 47 Birchwood Road, Ohai.
           4IV-Looser, E. A., 47 Milford Street, Green Island.
          41W—Holden, P. J., 106 Mornington Road, Dunedin, W.1.
41X—Hasler, D. G., Schoolhouse, Omarama.
41Y—Piercy, H. G., 33 Conyers Street, Invercargill.
           4JA-McQuillan, H., 15 Metlrose Street, Dunedin, N.W.1.
           4JB—Rose, J. R., Otatara, Invercargill.
4JC—Ritchie, J. R., 666 George Street, Dunedin, N.1.
           4JE—Elliott, J., 109 Wharfdale Street, Dunedin. 4JF—Means, C. B., Campbell Island.
           4JG-MacDonald, E. R., 264 Main Road, Green Island.
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4JH—Harrow, J. C., 529 Tweed Street, Invercargill.
4JI—Woods, J. R., Taiepa Rd., Otatara, R.D. 9, Invercargill.
4JJ—Ferriss, R. J., 5 Derby Street, Green Island.
4JK—McKechnie, A. J., 20 Sycamore Place, Invercargill. 4JL—Stewart, R.D., 4 Arawa Street, Gore. 4JM—Richardson, J., Auroral Station, Private Bag, Omakau. 410-4JP-McKenzie, G. A., School Residence, Te Tipua, 4 R.D., Gore. 4JQ-Torrance, A. M., 5 Hart Street, Dunedin. 4JR-4JS-4JT—Jennings, J. T., 39 Marion Street, MacAndrew Bay. 4JU—Middleton, C. H., 16 Ryehill Street, Dunedin. 4JV—Johnston, V. J. R., 42 Blacks Road, Dunedin, N.E.1. 4JW—Watson, R. J., R.D. 6H, Oamaru. 4JX—Denford, F., 29A Lochend Street, Dunedin. 4JY—Otago Branch N.Z.A.R.T. (Trustee: H. G. Hedge), 109 Macandrew Road, Dunedin. -Bremner, G. B., c/o P.O., Derwent Street, Naseby. 4KA—
4KB—Gearing, W. J., 57 Orbell Street, Dunedin.
4KC—Air Training Corps Radio Club, No. 12 Invercargill Squadron (Trustee R. A. McNeill), Army Hall, Victoria Avenue, Invercargill. Victoria Avenue, Invercargill.

4KD—Little, S. G., 96 George Street, Invercargill.

4KE—Collyer, J. V., Sunderland Street, Clyde.

4KF—France, K. N., Arthurton, No. 1 R.D., Gore.

4KG—Rhodes, T. W., 78 Spottiswoode Street, Dunedin, E.1.

4KH—Braddock, R. F., 39 Norton Street, Gore.

4KI—Poole, F. L., Marama Avenue, Otatara, Southland.

4KJ—Robertson, D. C., 148 Main Road, Waikouaiti.

4KK—Gillick, M. M., 30 Oakland Street, Dunedin, E.1.

4KL—Taylor. W. R., 17 Thomas Street, Ranfurly.

4KM—Stanton, K. A., "Ascalon", 19 Bruce Street, Dunedin. 4KO-Williams, T. J., 48 Every Street, Dunedin. 4KP-Cochrane, W. G., 29 Yarmouth Street, Balclutha. 4KQ—Symonds, J. R., Clinton, South Otago. 4KR—Pearce, A. M., 173 Hellensburgh Road, Dunedin. 4KS-Orton, A., Church Street, Clinton. 4KT-4KU—Taylor, S. J., 111 Ettrick Street, Invercargill. 4KV—Patton, J. A., 16 Ward Parade, Bluff. 4KW—Thomas, R. S., 234A Nelson Street, Invercargill. 4KX-4KY—King Edward Technical College Transmitting Club (W. G. Collett, Trustee), Stuart Street, Dunedin, 4KZ—Rosedale Intermediate School Radio Club (Trustee W. J. Reynolds), Layard Street, Invercargill. 4LB-Beagley, G. T., 5 Ward Street, Momona, Dunedin. 4LD---4LE-Evans, L. M., Tussock Creek, R.D., Invercargill. 4LF-Masterton, D., 3 Ashmore Street, Dunedin. 4LH-Milsom, P. S., 20 Lanark Street, Mosgiel. 4LI-Amon, L. E. S., 669 Castle Street, Dunedin. 4LJ—MacKenzie, A. I., Taieri Road, Dunedin. 4LK—Whitty, M. J., 20 Edinburgh Street, Green Island, 4LL-Benson, J. A., 33 Mitchell Avenue, Dunedin. 4LM-Murdoch, F. M., 254 Layard Street, Invercargill. 4LN-Tall, E. J., 19 Graham Street, Mosgiel. 4LO-Singleton, J. (Mrs), 37 Thames Street, Invercargill. 4LP-Sellar, K. R., 16 City Road, Dunedin. 4LQ-Mackie, J. B., 1 Cobden Street, Dunedin. 41 R-4LS-Howie, G. A., 45 Wharfdale Street, Macandrew Bay. 4LT-Crook, W., Clarksville R.D., Milton, Otago. 4LV-Johnson, P. W., Saddle Hill, Dunedin. 4LW-Kibblewhite, K. C., C.A. Div., Frankton, R.D. 1, Cromwell.

4LX-Collett, L. M., 75 Gladstone Terrace, Invercargill.

4LY-

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4LZ—Telford, B., Ruru Avenue, Otatara, R.D. 9, Invercargill. 4MA—Ferguson, T. R., 592 Tay Street, Invercargill. 4MB—Andrews, S. E., 14 Como Street, Dunedin, W.1. 4MC—McGowan, D. F., 24 Junction Road, Ravensbourne, Dunedin
                          Dunedin.
   4MD—Hayes, K. J., Ortive Street, Cromwell.

4ME—Cameron, L. C., 16 Cochrane Street, Dunedin.

4MF—Bell, J. W., 20 Jackson Street, Invercargill.
   AMG—Jones, R. B., 25 Stuart Street, Invercargill.

4MG—Jones, R. B., 25 Stuart Street, Invercargill.

4MH—McKenzie, E. D., 18 Sheen Street, Dunedin.

4MI—Redshaw, L. R. L., Kitt Whanui, Harrington Point

Road, R.D. 2, Dunedin.
   4MK-Kingston, R. W. G., 12 Kennilworth Street, Waverley,
   4ML—Lamont, M. S., 41 Pioneer Crescent, Dunedin.

4ML—Lamont, M. S., 41 Pioneer Crescent, Dunedin.

4MM—Murray, R. W., Ripponvale, Cromwell.

4MN—Mosley, J. D., 287 Ythan Street, Invercargill.
   4MP—Crichton, J., 14 Bernicia Street, Port Chalmers.

4MQ—Reynolds, W. J., 189 George Street, Invercargill.

4MR—Mabon, A. C., 307 Kenmure Road, Dunedin.

4MS—Dalliessi, P. J. C., 135 Balmacewan Road, Dunedin.

4MT—Matheson, J. G., 11 Tainui Street, Gore.
   4MU—McAlevey, M. J., 19 Leckhampton Court, Clyde Hill, Dunedin.
  4MV—Dawson, G. L., c/o Box 22, Tokonui.

4MW—Ward, W. T. R., 29 Wellesley Avenue, Invercargill.

4MX—Govan, W. A., 28 Arn Street, Dunedin.

4MY—Treweek, M. E., 9 Layard Street, Invercargill.

4MZ—Sherlaw, W. G., Waipori Falls.
  4NB—Barkman, D. J., 65 Playfair Street, Dunedin.
4NC—Holding, N., 93 Dunrobin Street, Waverley, Dunedin.
  4NE—Paterson,
                                     A. J., 15 Trigg Street, Momona Airport,
                         Dunedin,
  4NG-Simmons, R. H., 544 Tay Street, Invercargill.
  4NH—McRodden, P., 18 Fraser Street, Sawyers Bay.
4NI—Braddock, Mrs A. R., 39 Norton Street, Gore.
4NJ—Firman, R. K., Campbell Island.
4NK—Kan, N. C. Y., 90 North Road, North East Valley,
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  4NL—Crutchley, F. J., 24 Hunt Street, Dunedin.
4NM—Taylor, F., 318 Chelmsford Street, Invercargill.
4NN—Gibb, L., 22 Bridger Street, Dunedin.
 4NO—Davidson, M., 34 View Street, Invercargill.
4NP—Douglas, R. I., 563 Castle Street, Dunedin, N.1.
4NQ—Dow, E. J., 144 Taieri Road, Dunedin.
  4NR---
  4NS-Stanley-Jackson, D. B. H., 9 Sawmill Road, Queens-
  town.
4NT—No. 46 (Mosgiel) Squadron A.T.C. Radio Club,
Trustee, P. S., Milson, Taieri Airport, Dunedin.
4NU—Mackay, A. J., Montana, 2 R.D., Heriot.
  4NV-
 4NW—Lee, N. P. C., 51 Dome Street, Invercargill.
4NX—Eteveneaux, D. H., 42 Greenock Street, Dunedin.
4NY—Young, P. F., New River Road, Winton.
 40A—McBeath, D. O., 37 Gala Street, Invercargill.
40B—Jackson, G. A., 88 Ravensbourne Road, Dunedin.
 40C-
 40D—Parsons, R. D., 69 Oreti Street, Invercargill.
40E—Cumming, C. T., 5 Aberdeen St., St. Clair, Dunedin.
 40F---
 40G-
 40H—McNeill, R. A., 58 Lewis Street, Invercargill.
40I—Sim, R. J., Henderson Street, Wingatui.
40J—Collie, D. B., 109 Venus Street, Invercargill.
 40K---
 40L-
 40M—Davenport, N. B., 22 Rawhiti Street, Dunedin.
40N—Summerell, B. W., "Rockhaven", 397 Queen's Drive,
Invercargill.
 400-
 40P-Morris, D. P., 134 Stobo Street, Invercargill.
40Q—Davies, K. J. H., Marama Avenue North, Otatara, No. 9 R.D., Invercargill.
40R—Reeves, W. A., 205 Tomahawk Road, Dunedin.
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40S—
40T—Cowan, M. G., 64 Duncan Street, Dunedin.
40U—North Otago Branch NZART (Trustee, J. Grant), 155
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40V—Major, L. H., 57 Glendining Avenue, Dunedin.
40W—Vincent, S. V., Charles Street, Weston, Oamaru.
40X—Checketts, R. N., 21 Highfield Terrace, Invercargill.
40Y—Montgomerie, J. C., 24 Sydney Street, Invercargill.
40Z—Withy, D. G., Flat G, 23 Anglem Street, Invervargill.
4PA—Lamb. M. A., 90 Princes Street. Invercargill.
  4PA-Lamb, M. A., 90 Princes Street, Invercargill.
    4PB-
  4PC—Sadgrove, P. C., 33 Roseberry Street, Dunedin.
4PD—Neill, K. G., 38 Teignmouth Street, Green Island,
Dunedin.
  4PE—Blyth, B. W., Gap Road, No. 3 R.D., Winton.
4PF—Palmer, H. L., 95 Glenpark Avenue, Dunedin.
  4PG—Lloyd, D. A., 163 Hillhead Road, Kew, Dunedin.
4PH—Miller, J. G., 18 Doon Street, Dunedin.
4PI—Huband, G. J., 70 Spencer Street, Dunedin.
4PJ—Blain, W. A., 640 Tay Street, Invercargill.
  4PL—Johnstone, H. B., 7 Usk Street, Oamaru.
4PM—Marsh, P., 12 Frances Street, Broad Bay, Dunedin.
   4PN-
 4PO—Price, L. J., Awarua Radio, Private Bag, Invercargill.
4PP—Cairns, J. G., Coal Creek, Roxburgh.
4PQ—Pryde, G. W., 25 Brownville Crescent, Maori Hill,
                    Dunedin.
 4PR-Russell, P. T., 255 Yarrow Street, Invercargill.
 4PS-
  4PT-
  4PU-
 4PV—Virtue, A. D. S., c/o Dept. of Civil Aviation, Frankton, No. 1 R.D., Cromwell.
 4PW-
 4PX-
 4PY-
   4PZ-Mullis, N. A., 21 Walter Street, Dunedin.
 4TAA—Barker, W. G., 30 Kowha Avenue, Invercargill.
4TAB—Olsen, W. J., 60 Rawhiti Street, Dunedin.
4TAC—
4TAD—Donnelly, M. L., c/o Awarua Radio, Private Bag, Invercargill.
4TAE—Thomas, T. M., 10 Farquharson Street, Dunedin.
 4TAF—Nijenhais, H. J., 3 Stone Street, Dunedin.
4TAG—Enright, A., 22 Main Road, Waldronville, Dunedin.
 4TAH-Smirk, A. H. C., 68 Cannington Road, Maori Hill,
Dunedin.
4TAI—Staynes, C. J., 12 Byron Street, Dunedin.
4TAJ—Dimmock, C., 92 Exmouth Street, Invercargill.
4TAK—Hannagan, C. C., 15 London Street, Dunedin.
  4TAI-
4TAM—Naylor, T. W., 62 George Street, Port Chalmers,
Dunedin.
 4TAN—Kramer, K. H., Cnr Humphrey Street and Main
Road, Frankton.
4TAO—Evans, D. F., 39 Longwood Road, Riverton.
4TAP—Johnston, G. H. L., 230 Talbot Street, Invercargill.
4TAQ—Howell, A. D., 9 Mercer Street, Balaclava, Dunedin.
4TAR—Kirkby, K. J., 5 Lesley Street, Dunedin.
 4TAS-
4TAT—Cunninghame, P. J., 63 High Street, Mosgiel.
4TAU—Richards, O. C., 20 Marine Parade, Macandrew Bay.
  4TAV-
4TAV—Marshall, W. H., 39 Bellona St., St. Kilda, Dunedin.
4TAX—Grogan, K. J., Crowe Road, No. 4 R.D., Invercargill.
4TAY—Field, E. T., 158 Bann Street, Bluff.
4TAZ—Boyd, R. V., 7 Braemar Street, Mosgiel.
4TBA—Croy, P. R., 3 Barton Street, Brockville, Dunedin.
4TBB-Sapwell, H. W., 50 Wray Street, Dunedin.
  4TBC-
4TBD-Gray, R. M., 33 Bradford Street, Dunedin.
4TBE-Wilson, D. T., 9 Fenwick Street, Dunedin.
4TBF-McNamara, B. R., 104 Russell Street, Alexandra.
4TBG—Gavin, B. M., 240 Highcliff Road, Andersons Bay,
                   Dunedin.
4TBH-McNeill, P. L., 60 Passmore Crescent, Dunedin.
4TBI---
4TBJ—Pycroft, B. E., 10 Ward Street, Momona.
4TBK—Enright, K. A., 22 Main Road, Waldronville, Dunedin.
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ZL-
      4TBL—Gordon, S. A., 10 Wye Street, Oamaru.
4TBM—Roxburgh, A. J., 365 Leith Street, Dunedin.
4TBN—Cargill, J. J. W., 28 Patrick Street, Mornington,
                               Dunedin.
      4TBP-Patterson, B. R., 42 Wilkinson St., Liberton, Dunedin.
      4TBQ—Culloty, D. L., Miss, 100 Cavell Street, Dunedin.
4TBR—Burns, A. H. J., Roebuck Rise, Broad Bay, Dunedin.
4TBS—Emslie, C. R., 70 Mulford St, Green Island, Dunedin.
      4TBT-
    4TBU—
4TBU—
4TBW—Wards, D. J., 140 May Street, Invercargill.
4TBW—Wards, D. J., 140 May Street, Invercargill.
4TBX—Jago, J. N., 411 Andersons Bay Road, Dunedin.
4TBY—Anderson, A. E., 488 Taieri Road, Dunedin.
4TBZ—Fraser. A. G., 3 Union Street, Dunedin North.
4TCA—Griffith, I. W., 6 Gowry Place, Dunedin.
4TCB—McTaggart, A. G., 84A Queen Street, Dunedin.
4TCB—Wilkins, R. J. 44 Heriot Row, Dunedin.
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Wells, Howard, G3EBE, 13 Hill Close, Purley, Surrey CR 21JR, England.
Wilkins, R., VK3AUR, Woodview, Byaduk 3285, Victoria, Australia.

tralia.

Williams, Phil, 5WIAU, Box 1069, Apia, Western Samoa.

Wilson, Mr C. R., K1GVA, 61 Warwick, Portland, Maine 04102,

U.S.A.

Wilson, R. A., 133 Ridge Street, Northgate, Queensland 4013,

Australia

Woolnough, A. S., VK3BW, Woolnough's Bus Service, Portar-lington, Victoria 3223. Wright, C., VK7L2, 3 Knight Street, Launceston, Tasmania

7250.

Wireless Institute of Aust., West Australia Division, Box N 1002, G.P.O., Perth, W.A. 6001.

The Secretary, Wireless Institute of Australia, Queensland Div., P.O. Box 638J, G.P.O. Brisbane, Queensland 4001, Australia.

Yewdall, G. E., W2DMR, 610 Chestnut St., Palmyra, New Jersey 08065, U.S.A.

V.H.F.

with BRUCE HARDING, ZL1TDR

Why operate on V.H.F.? This is a question asked by many a prospective amateur and many existing amateurs on the MF and HF bands.

Firstly the propagation characteristics of VHF transmissions can, in most circumstances be accurately predicted. This means that local contacts can be conducted reliably any time of the day or night, in any weather on a virtually noise free and fade free path using only a few watts. By setting up on hilltops, and during some summer weather, contacts over many hundreds of miles are possible.

The VHF bands also lend themselves admirably to experimental work using moonbounce, meteor scatter, and SSB techniques. Because of their relatively small physical size, high gain antenna systems

can be used to good advantage.

The advantages of AM and FM repeaters are available to VHF users to ensure high quality mobile

radio operation.

There is room on the bands for all modes of transmission from CW to TV. As morse is not required for operation on 144 MHz and above, many people with a genuine interest in the technical aspects of radio have been able to experiment on the VHF bands and have undoubtedly given a valuable contribution to amateur radio.

Therefore whether you are an old hand or beginner, interested in operating or experimenting, prefer to buy commercial equipment or construct your own, there is a place for you on the VHF amateur bands. I am sure you won't be disappointed.

The Old Timers'

Contributed by A. R. HARRIS, ZL4CA

The objects of the Old Timers' Club (ZL) are set out in our constitution adopted in 1954. They are as follows:---

(a) To recognise service to Amateur Radio.

(b) To revive and maintain interests and good fellowship among the older members in the common cause.

Membership is available to any ZL amateur who has held an amateur licence for the last 25 years or more and is still an active amateur.

OFFICE BEARERS 1974/1975

Patron: F. D. Bell, ZL4AA.

Grand Old Man: J. F. L. Johnson, ZL3HV. Chairman (Net): A. E. H. Simpson, ZL3CF. Hon Secretary: A. R. Harris, ZL4CA.

31 Bush Road, Mosgiel, Phone Dn. 25-084.

Districts Representative Committee:

H. W. Batty, ZL1HQ; H. V. Parminter, ZL2AJ; R. F. G. Blake, ZL3FX; A. H. McL. Grubb, ZL4AL.

Service Net Sundays 10.30 a.m., $7057 \pm QRM$. Objects of our club,

(a) To recognise service to Amateur Radio.

(b) To revive and maintain interests and good followship among the older members in the Common Cause.

Evidence of eligibility to be submitted by applicants shall include:-

Date of original licence.

- Operator's certificate number.
- Original call-sign held.
- 4. Present call-sign and address.
- 5. Full name and address.
- 6. Stamped addressed envelope.

7. All nominations for membership must be seconded by two members of O.T.C.

A certificate is issued to all bona fide members. The club is duly affiliated to the New Zealand Association of Radio Transmitters (Incorp.).

All correspondence to be addressed to the

National Secretary.

A B R

N.Z.AR.T. INFORMATION SECTION

Acknowledgements to:-

NEW ZEALAND POST OFFICE
NEW ZEALAND BROADCASTING CORPORATION
NEW ZEALAND TIME SERVICE
RADIO SOCIETY OF GREAT BRITAIN
SEA SPRAY ANNUAL
DEPARTMENT OF STATISTICS
NEW ZEALAND LANDS AND SURVEY DEPARTMENT

BOX 1733 BREAK-IN CHRISTCHURCH

All articles, advertising, Hamads, and other similar literature for the attention of the Editor should be addressed to the above.

BOX 1459, GENERAL SECRETARY NZART, CHRISTCHURCH

For subscription renewals; Publications Department; changing of postal address (financial members of NZART only) for the posting of *Break-in*; and general enquiries. NOTE: Branch number and membership classification must be on all correspondence, e.g. 05/T (Christchurch Branch member) transmitting.

OSL BUREAU

The QSL Bureau was established by NZART for the purpose of handling inward and outward cards at the most favourable rates possible. The charge for outward cards is one cent each, and there is no charge for inward cards. The service is available to all NZ amateurs whether they be members of NZART or not.

The QSL Manager for NZ is Bill Fouhy, ZL2LB, P.O. Box 489, Wellington.

LLZLB, F.O. Box 469, Weinington.

The District QSL distributors are:

1st district: Mr F. Hawthorn, ZL1GX, 77 Wainui Ave., Pt. Chevalier, Auckland, W3,

2nd district: Mr K. E. Grove, ZL2BBT, 81 Tama Street, Lower Hutt.

3rd district: Mr T. J. McKenzie, ZL3RK, 73 Cygnet Street, Christchurch, 7.

4th district: Mr P. Marsh, ZL4PM, 12 Frances Street, Broad Bay, Dunedin.

QSL Manager for NZ:

1. Receives inward cards, sorts these into ZL1, 2, 3 or 4 categories, and posts them to the District Distributor in the appropriate district. The cost of

this postage is borne by the Bureau.

2. Receives outward cards from individual members or branch distributors and arranges for onward transmission. These cards must be accompanied by a fee of one cent per card, whether they be for NZ or overseas.

District QSL Distributors:

1. Upon receipt of inward cards from ZL2LB, sort them into the various branches in their districts and send them on to the appropriate branch distributor, normally once a month. This postage is paid by the Bureau.

2. Are NOT responsible for handling outward cards or postage of inward cards to individual mem-

bers.

Branch OSL Distributors:

1. Receive outward cards, with one cent per card, from individual members and forward them to the NZ QSL Manager, P.O. Box 489, Wellington. Individual members can send their cards direct to NZ Manager if desired.

2. Arrange for distribution of inward cards to individual members, by distribution at branch meetings, by personal distribution, through a depot at a local shop, or by direct postage to members who keep them supplied with stamped addressed envelopes of suitable size.

OFFICIAL BROADCAST

Official broadcasts by NZART are made on the last Sunday of each month (except December, when it will be made on the Sunday before Christmas) at 2000 hours NZST from ZL2IY on 3900 kHz. Any Branch wishing to have material included in the official broadcast should forward copy to ZL2IY, before the Friday preceding the broadcast. It should be noted that all material presented in the broadcast has the prior approval of the Post Office.

A MEMBERSHIP TO N.Z.A.R.T. costs only \$6.00 per annum.

Junior members at reduced rates.

Write today,
GENERAL SECRETARY,
N.Z.A.R.T., P.O. Box 1459,
CHRISTCHURCH.

NEW ZEALAND BEACON AND REPEATER SERVICE

F.M. REPEATER CHANNELS

Channel A : Input 146.20 MHz.

Output 145.50 MHz.

Channel B Input 146.25 MHz.

Output 145.55 MHz.

Channel C : Input 146.30 MHz.

Output 145.60 MHz.

Channel D : Input 146.350 MHz.

Output 145.65 MHz.

Channel E : Input 146.40 MHz.

Output 145.70 MHz.

Channel F : Input 146.45 MHz.

Output 145.75 MHz.

NEW ZEALAND 2 METRE V.H.F. FIXED-CHANNELS-

F.M. Simplex Channels:

Channel 1 146.00 MHz. Channel 2 146.05 MHz. Channel 3 146.10 MHz.

A.M. REPEATER CHANNELS

Input 144.60 MHz. Channel A Output 145.725 MHz.

Input 144.65 MHz.

Channel B Output 145.775 MHz.

Channel C Input 144.70 MHz.

Output 145.825 MHz.

A.R.E.C. C.D. Communications:

147.25 MHz. 147.50 MHz. 147.75 MHz.

(ESTABLISHED V.H.F. NET FREOS)— S.S.B. Calling Frequencies in New Zealand:

> 52.2 MHz. 144.2 MHz.

432.2 MHz. 1296.2 MHz.

S.S.B. Calling Frequencies in Australia:

52.1 MHz. 144.1 MHz.

RESERVED FOR SATTELITES

145.85 to 145.95 MHz.

F.M. REPEATER STATIONS . . .

WHANGAREI: Channel D-FM

(Originally Channel B) Northland Branch N.Z.A.R.T. Trustee: W. Adams, ZL1AHV B. Rowlings, ZL1WB

Power Input : 6 watts.

Mt. Parahaki, N20/850983. Location

Mode F.M.

Antenna Vertical Dipoles.

AUCKLAND: Channel C-FM

(Originally Channel A) Auckland V.H.F. Group. Trustee: B. Harding, ZL1TDR

Power Input: 15 watts.

Location Waitakere Ranges N41/514077.

Mode F.M.

Antenna Vertical Dipoles.

WELLINGTON: Channel F-FM

(Originally Channel D) Wellington V.H.F. Group. Trustee: G. Love, ZL2TBK

S. J. Wilson, ZL2TAU

20 watts. Power Input

Location NZMS 1 N164 297172 Mode

Antenna Stacked Vertical Dipoles.

NELSON: Channel A-FM

Nelson Branch N.Z.A.R.T. Trustees: R. Wastney, ZL2AYE. J. Jackson, ZL2BCG.

Power Input: 15 watts.

Location Mount Campbell, 4359ft., A.S.L.

Mode F.M.

: Collinear 5 element array. Antenna

WAIKATO: Channel D-FM

(Originally Channel B) Waikato V.H.F. Group.

Trustee: I. W. Brown, ZL1TAT.

Power Input 15 watts. Location Mt. Te Aroha.

Mode F.M.

Antenna Vertical Collinear Dipoles.

UPPER HUTT: Channel C-FM

(Originally Channel A) Upper Hutt Branch N.Z.A.R.T. Trustees: F. Johnson, ZL2AMJ. J. Meechan, ZL2BHF.

Power Input 15 watts. Mode F.M.).

Location Mount Climie N161 672,386. Vertical Stacked Dipoles. Antenna

PALMERSTON NORTH: Channel D-FM

(Originally Channel B)

Manawatu Branch N.Z.A.R.T. Trustee: H. N. Wiggins, ZL2BFR S. J. Cathcart, ZL2BJO

Power Input: 20 watts

Location Mt. Stewart NZMS I N143.

986515.

Antenna 5/8th dipoles.

HAWKES BAY: Channel E-FM

(Originally Channel C) Hawkes Bay V.H.F. Group. Trustee: D. Nunn, ZL2RG

Power Input: 2 watts Location

Bluff Hill.

Antenna : Vertical Dipoles.

PATEA: Channel E-FM

(Originally Channel C) Patea Branch N.Z.A.R.T. Trustee: J. A. Gunn, ZL2TLY

Power Input: 20 watts

Location Antenna

Vertical Dipoles.

A.M. REPEATER STATIONS . . .

CHRISTCHURCH: Channel B-AM

Christchurch Branch N.Z.A.R.T.

Trustee: D. J. Mackay ZL3RW

Power Input : 20 watts. Location

Marlev's Hill.

Mode

A.M.

Antenna : Vertical Dipoles.

TIMARU: Channel C-AM

Timaru Branch N.Z.A.R.T.

Trustee: M. Johnson ZL3JO

Power Input: 15 watts.

Location : Mount Horrible, elevation 1500ft.,

A.S.L.

Mode A.M.

Antenna : Vertical Dipoles.

DUNEDIN: Channel A-AM

Otago Branch N.Z.A.R.T. Trustee: D. Carr ZL4DS

Power Input : 20 watts Mode A.M.

Antenna 3 element Colinear Vertical

Location : Signal Hill, Dunedin **NEW PLYMOUTH: Channel C-AM**

New Plymouth Branch

N.Z.A.R.T.

Trustee: W. T. Watkins ZL2ANC

Power Input : 20 watts.

Location Marshall Hill, New Plymouth.

Mode A.M.

Antenna Vertical Dipoles.

INVERCARGILL: Channel B-AM

Southland Branch N.Z.A.R.T. Trustees: T. Service ZL4GJ N. Checketts ZL40K

Power Input: 15 watts Location Bluff Hill.

Antenna Vertical Dipoles with Reflectors.

> N.Z.A.R.T. VHF **BEACON STATIONS**

ZL1VHF-AUCKLAND V.H.F. GROUP

Trustee: D. Johnson ZL1AMN

Frequency 145.1 MHz. Operation Continuous. Power Input 12 watts.

Mode Carrier with morse identification

once every minute.

Antenna Ground plane. Location

Clubrooms, Mt Roskill.

ZL1VHW-WAIKATO V.H.F. GROUP

Trustee: I. W. Brown, ZL1TAT.

Frequency 145.15 MHz. Operation Continuous. Power Input 20 watts.

Aeria1 Big wheel (clover leaf). Horizontal

Location N.Z.M.S., N66, 386392.

Mode A0, A1, A2.

ZL2VHF-WELLINGTON V.H.F. GROUP

Trustees: S. J. Wilson ZL2TAU G. A. Love ZL2TBK

Frequency 145.2 MHz. Power Input 20 watts.

Aeria1 Two Yagis, arranged to give a fig-

ure of eight pattern. One main lobe to point north, the other south-

west.

Location NZMS 1 N160 431312

Elevation 520ft A.S.L.

Mode Callsign and Telemetry FSK.

Operation Regular carrier break.

Continuous.

ZL2UHF-WELLINGTON V.H.F. GROUP

Trustees: S. J. Wilson ZL2TAIJ G. A. Love ZL2TBK

Frequency 431.980 MHz. Power Input 20 watts.

Aerial Two Dipole/reflector units, ar-

ranged to give a figure of eight pattern. One main lobe to point

north, the other south-west,

Elevation 1400ft. A.S.L. Mode F.S.K. Operation Continuous

Location : NZMS 1 N164 297172.

ZL2VHP—MANAWATU BRANCH

Trustee: H. N. Wiggins, ZL2BFR.

S. Cathcart, ZL2TGT.

Frequency 145.250 MHz. Power Input: 20 watts.

Antenna 3 Wire Halo - 4 element Yagi

beamed north-west. Location

Mt. Stewart 175° 29'E & 40° 13'S. Mode

800 Hz F.S.K. Operation Continuous.

ZL2UHP-MANAWATU BRANCH

Trustee: H. N. Wiggins, ZL2BFR. S. Cathcart, ZL2TGT

431-850 MHz. Frequency Power Input: 8 watts. Aerial 4 Dipole Array.

Location Mt. Stewart 175° 29'E & 40° 13'S.

800 Hz F.S.K. Mode Operation Continuous.

ZL3VHF—CHRISTCHURCH V.H.F. GROUP

Trustee: D. J. Mackay, ZL3RW.

Frequency 145.3 MHz. Power Input 20 watts. Antenna Crossed Dipole.

Location Near Sign of Takahe, Cashmere. Elevation Approximately 600ft, A.S.L.

Mode F.S.K.

ZL4VHF OTAGO BRANCH V.H.F. GROUP

Trustee: D. Carr, ZL4DS.

Frequency 145.4 MHz. Operation Continuous. Power Input 15 watts. Aerial Big wheel. Location Highcliff, Dunedin.

Mode A1 F.S.K.

Elevation Approximately 900ft. A.S.L.

REGION 3. AMATEUR BAND BEACONS

VK0	52.525	VK0MX	Mawson
	53.032	VK0TM	Macquarie Island
	53.544	VK0PF	Casey
VK2*	52.200	VK2II	Sydney
VK3	144.700	VK3VE	Vermont
VK4	52.400	VK4WI/2	Townsville
7	144.390	VK4VV VK4VV	
VK5	53.000	VK5VF	near Toowoomba
V ILJ	144.800	VK5VF	Mt. Lofty
VK6	52.006		Mt. Lofty
A IZO		VK6VF	Bickley
	52.900	VK6TS	Carnarvon
	52.950	VK6VE	Mt. Barker
	144.500	VK6VE	Mt. Barker
	145.010	VK6VF	Bickley
VK7	144.900	VK7VF	Devonport
VK9	144.600	VK9XI	Christmas Island
JA	51.995	JA1IGY	Japan
W	50.091	WB6KAP	U.S.A.
HL	50.100	HL9WI	South Korea
ZK	50.100	ZK1AA	Cook Island
KH	50.101	KH6EQI	Hawaii
****	50.015	KH6ERU	
	50.015	KHUEKU	Hawaii

* This station operates as a manned beacon, i.e. attended.

AMATEUR BEACONS-

28.165 MHz VP9BA 28.175 MHz **VE3TEN** 28.180 MHz ZC4CY 28.185 MHz **GB3SX** 28.190 MHz 3B8MS 28.195 MHz DLØIGI

except 15-20 and 45-50 minutes past

each hour. 28.200 MHz DLØIGI

transmits 15-20 and 45-50 minutes

past each hour.

All repeater stations may be used for Search and Rescue, Civil Defence or A.R.E.C./Post Office emergency communications. Appropriate announcements will be made when repeaters are used. Appropriate callsigns must be used to indicate emergency use, e.g. ZL1EAA etc. or SAR/CD Callsigns as per local schedules.

LEAVE A 3 SECOND BREAK BETWEEN ALL OVERS. MAKE ALL TRANSMIS-SIONS SHORT AND FREQUENT. DON'T BECOME A REPEATER HOGG!!!!

AMATEUR BANDS IN THE UK

Effective 1 January 1973, the following schedule applies:

Amateur (Sound) and (Sound Mobile) Licences

			Po	Power	
Footnote No	Frequency bands (MHz) (See (A))	Classes of emis- sion (See (B))	Maximum dc input power (See (C) and (D))	RF output p.e.p. for A3A and A3J emis- sions only (See (D))	
1 and 5	1.8-2	10W		263W	
2	3.5—3.8				
	7—7·10 14—14·35 21—21·45 28—29·7	A1, A2,	150W	400W	
1 and 3	70.025—70.7	A3, A3A,	50W	133 \frac{1}{3} W	
1 and 4	144—145	A3H, A3J, F1,			
	145—146	F2 and F3	150W	400W	
1, 7 and 8	430—432	A1, A2, A3, F1, F2 and F3	g-reside	ā-i-d	
1 1 1 1 1 1	432—440 1,215—1,325 2,300—2,450 3,400—3,475 5,650—5,850 10,000—10,500	A1, A2, A3, A3A, A3H, A3J, F1, F2 and	150W	400W	
2 and 9	24,000—24,050	10		t	
1 and 9	24,050—24,250				
1 and 6 1 and 6 1 and 6	2,350—2,400 5,700—5,800 10,050—10,450	P1D, P2D, P2E P3D and P3E	25W mean power and 2·5kW peak power		

Footnotes

- 1. This band is allocated to stations in the amateur service on a secondary basis on condition that they shall not cause interference to other services.
- 2. This band is shared by other services.
- 3. This band is available to amateurs until further notice provided that use by the licensee of any frequency in the band shall cease immediately on the demand of a Government official.

- 4. The following spot aeronautical frequencies must be avoided whenever this band is used: 144·0, 144·09, 144·18, 144·27, 144·36, 144·45, 144·54, 144·63, 144·72, 144·81 and 144·9MHz.
- 5. The type of transmission known as Radio Teleprinter (RTTY) may not be used in this band.
- 6. Use by the licensee of any frequency in this band shall be only with the prior written consent of the Minister.
- 7. This band is not available for use within the area bounded by 53°N 02E, 55°N 02E, 55°N 03W and 53°N 03W.
- 8. In this band the power must not exceed 10W erp (effective radiated
- 9. Use by the licensee of any frequency in this band shall only be with prior written consent of the Minister and such consent shall indicate the power which may be used, taking into consideration the characteristics of the licensee's station.
- (A). Artificial satellites may not be used by stations in the amateur service except in the bands 7-7·10MHz, 14-14·25MHz 21-21·45MHz, 28-29·7MHz, 144-146MHz, 435-438MHz, 24,000-24,050MHz.
- (B). The symbols used to designate the classes of emission have the meanings assigned to them in the Telecommunication Convention. They are:

Amplitude modulation

- A1 Telegraphy by on-off keying without the use of a modulating audio frequency.
- A2 Telegraphy by on-off keying of an amplitude-modulating audio frequency or frequencies or by on-off keying of the modulated emission.
- A3 Telephony, double sideband.
- A3A Telephony, single sideband, reduced carrier.
- A3H Telephony, single sideband, full carrier.
- A3J Telephony, single sideband, suppressed carrier.

Frequency (or phase) modulation

- F1 Telegraphy by frequency shift keying without the use of modulating audio frequency, one of the two frequencies being emitted at any instant.
- F2 Telegraphy by on-off keying of a frequency modulating audio frequency or on-off keying of a frequency modulated emission.
- F3 Telephony.

Pulse modulation

- P1D Telegraphy by on-off keying of a pulsed carrier without the use of a modulating audio frequency.
- P2D Telegraphy by on-off keying of a modulating audio frequency or frequencies or by on-off keying of a modulated pulsed carrier—the audio frequency or frequencies modulating the amplitude of the pulses.
- P2E Telegraphy by on-off keying of a modulating audio frequency or frequencies or by on-off keying of a modulated pulsed carrier—the audio frequency or frequencies modulating the width (or duration) of the pulses.
- P3D Telephony, amplitude modulated pulses.
- P3E Telephony, width (or duration) modulated pulses.
- (C). DC input power is the total direct current power input to (i) the anode circuit of the valve(s) or (ii) any other device energizing the aerial.
- (D). As an alternative, for A3A and A3J single sideband types of emission, the power shall be determined by the peak envelope power (p.e.p.) under linear operation. The radio frequency output peak envelope power under linear operation shall be limited to 2.667 times the dc input power appropriate to the frequency band concerned. This column gives the maximum power determined by this method which may be used.



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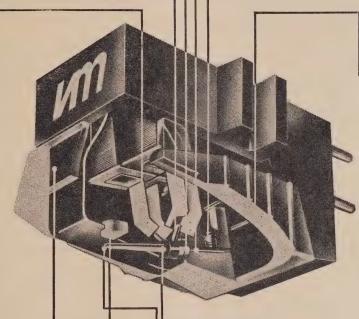
The 78% permalloy pole piece is simple-shaped, and suffers least from magnetic loss.

The V-shaped dual magnet The double-layered conversion element operates with highest fidelity to the 45/45 stereophonic principle.

damper, made of special synthetic rubber, has a delicate damping effect.

made of a new crystal high polymer CHP material, holds the center of vibration accurately and surely.

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The mechanism for mounting and detaching a replacement stylus completely independent of the vibration unit. The stylus holder and the stopper.

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The stylus guard made of elastic material protects the vibration unit from shocks.

The diamond chip, ground to an oval shape, is mounted accurately at a relative angle of 75° without damaging the cantilever.

Light, durable and ideal-shaped Tapered cantilever.



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PL74/28

U.S. AMATEUR FREQUENCY ALLOCATIONS

CW only 3.500— 3.775 7.000— 7.150	Phone & CW 3.775— 4.000 7.150— 7.300
	14.200—14.350 21.250—21.450
28.000-28.500	28.500-29.700
50.00050.100	50.100-54.000
3.525 3.775	3.800— 4.000
7.025— 7.150	7.150— 7.300
14.025—14.200	14.200—14.350
	21.270—21.450
	28.500—29.700
	50.100—54.000
	3.890— 4.000
	7.225— 7.300
	14.275—14.350
	21.350—21.450
28.000—28.500	28.500-29.700
2.700 2.750	50.100—54.000
	Suggested
	3.845
	7.220
	14.230
	21.340
	28.680
50.100—54.000	23.000
	3.500— 3.775 7.000— 7.150 14.000—14.200 21.000—21.250 28.000—28.500 50.000—50.100 3.525— 3.775 7.025— 7.150 14.025—14.200 21.025—21.250 28.000—28.500 50.000—50.100 3.525— 3.775 7.025— 7.150 14.025—14.200 21.025—21.250 28.000—28.500 3.700— 3.750 7.100— 7.150 21.100—21.200 28.100—28.200 SSTV Frequencies 3.775— 3.890 7.150— 7.225 14.200—14.275 21.250—21.350 28.500—29.700

N.Z.A.R.T. OFFICIAL BROADCASTS

The monthly N.Z.A.R.T. Official Broadcast is made by

ZL2IY, Wellington 3900 kHz,

on the last Sunday of each month at 8 p.m. except December, when the broadcast is made on the Sunday before Christmas.

(CONFERENCE OFFICIAL BROADCAST)—

The Official Conference Broadcast (Queen's Birthday Weekend) is held on the Sunday evening at 8 p.m.

Frequency: 3900 kHz.

(A.R.E.C. SECTION LEADERS NET) —

A monthly net of all A.R.E.C. Section Leaders is held on the 3rd Monday of each month at 7.30 net is conducted by the O.C., A.R.E.C., W. D. Gorman, ZL2EX (ZL2IY) on

3900 kHz Upper Side-Band

A GUIDE FOR OVERSEAS AMATEURS TO OBTAIN A NEW ZEALAND LICENCE

Holders of certificates issued by Australia, Canada, Cook Islands, Niue, United Kingdom and Irish Republic, are recognised as equivalent to Grades I, II or III (New Zealand) as case may be, and granted licence, upon application and payment of fee, i.e.

- (a) No morse or less than 12 w.p.m.—Grade III
- (b) 12 w.p.m. but no evidence of operator experience—Grade II.
- (c) 12 w.p.m. and proven experience—Grade I.

Those licensed under (a) or (b) obtain higher qualifications by passing the appropriate examination in the usual way. A certificate produced to the local engineer's office only is sufficient.

If no certificate but you have some evidence of passing an examination then you would be required to obtain the New Zealand certificate — credit would be given for Section A (theory).

Otherwise applicants would have have to sit the

full examination in the normal way.

Local District Engineers' Offices:

Auckland:

Federal Street, Auckland.

Wellington:

Cambridge Terrace, Wellington.

Christchurch:

Cathedral Square, Christchurch.

Dunedin:

Chief Post Office Building, Dunedin.

PLAN NOW

N.Z.A.R.T. CONFERENCE

ROTORUA

1975

It's going to be a GREAT SHOW

New Zealand Amateur Jrequency Allocations GRADE 1

For use by amateurs licensed to operate under a Grade I amateur operator's certificate.

Frequencies Classes of emission 1875 to 1900 kHz CW and AM 3.5 to 3.9 MHz CW and AM 3.5 to 3.55 MHz 3.7 to 3.8 MHz NFM 7.0 to 7.1 MHz (see note 5) CW 7.0 to 7.05 MHz **FSK** 7.05 to 7.1 MHz AM 14.0 to 14.35 MHz (see note 5) CW 14.0 to 14.1 MHz **FSK** 14.1 to 14.35 MHz AM 21.0 to 21.45 MHz (see note 5) CW 21.0 to 21.1 MHz **FSK** 21.1 to 21.45 MHz AM 26.96 to 27.23 MHz CW FSK and AM 27.12 MHz (see note 4) Telecontrol 28.0 to 29.7 MHz (see CW and AM note 5) 28.0 to 28.1 MHz **FSK** 29.0 to 29.7 MHz **NFM** 51 to 53 MHz (see note 1) CW MCW AFSK and AM 51 to 52 MHz NFM 52 to 53 MHz FM and Telecontrol 144 to 148 MHz (see CW MCW AFSK FM and AM note 5) 420 to 449 MHz (see notes MCW AFSK FM 2 and 5) and AM 421 to 449 MHz Television 421 to 449.75 MHz **Telecontrol** 1215 to 1300 MHz (see CW MCW AFSK FM note 3) AM and Pulse 1250 to 1280 MHz Television 2300 to 2450 MHz (see notes 3 and 4) 3.3 to 3.5 GHz (see notes 3 and 6) 5.65 to 5.85 GHz (see notes 3, 4 and 7) CW MCW AFSK FM 10.0 to 10.5 GHz (see AM and Pulse notes 3 and 8) 24.0 to 24.05 GHz (see note 5) 24.05 to 24.25

NOTES

(see note 3)

1. This band is shared with Defence services; amateur usage is on a non-interference basis to Defence stations.

2. This band is shared with aeronautical radionavigation (radio altimeters) and radiolocation. Amateur usage is on a non-interference basis to these services.

3. This band is shared with the radiolocation service: amateur usage is on a non-interference basis to this service.

4. The frequencies 27.12 MHz, 2450 MHz and 5.8 GHz are designated for industrial, scientific and medical purposes with emissions confined within the limits of \pm 163 kHz, \pm 50 MHz and \pm 75 MHz respectively of these frequencies. Amateur stations

operating within these limits must accept any harmful interference that may be experienced from the operation of ISM equipment.

5. The bands 7.0-7.1 MHz, 14.0-14.25 MHz, 21.0-21.45 MHz, 28.0-29.7 MHz, 144-146 MHz, 435-438 MHz and 24.0-24.05 GHz may also be used for amateur satellite communications.

6. The band 3.4-3.5 GHz is shared with fixed satellite and radiolocation services; amateur usage is on a non-interference basis to this service.

7. The band 5.67-5.725 GHz is shared with the space research (deep space) service on an equal basis.

8. The band 10.0-10.025 GHz is shared with the weather radar service on meteorological satellites. Amateur usage is on a non-interference basis to

GENERAL

note 3)

NFM-narrow-band frequency modulation; the bandwidth of which should not exceed 6 kHz.

AM-amplitude modulation telephony, including SSB systems. Slow scan TV may be used wherever AM is authorised.

FM-frequency and phase modulation telephony. FSK—frequency shift keying, with a frequency shift of up to 850 Hz and a maximum bandwidth of 1.1 kHz.

AFSK-audio frequency shift keying.

For transmissions employing FSK or AFSK, the station's call sign must be sent in international morse code at hand speed at least once every 15 minutes during the course of each transmission.

GRADE 2

For use by amateurs licensed to operate under a Grade II amateur operator's certificate.

Frequencies	Classes of emission
1875 to 1900 kHz	CW and AM
3.5 to 3.9 MHz	CW and AM
3.5 to 3.55 MHz	FSK
3.7 to 3.8 MHz	NFM
51 to 53 MHz (see note 1)	CW MCW AFSK and AM
51 to 52 MHz	NFM
52 to 53 MHz	FM and Telecontrol
144 to 148 MHz (see	CW MCW AFSK FM
note 5)	and AM
420 to 449 MHz (see	CW MCW AFSK FM
notes 2 and 5)	and AM
421 to 449 MHz	Television
421 to 449.75 MHz	Telecontrol
1215 to 1300 MHz (see	CW MCW AFSK FM
note 3)	AM and Pulse
1250 to 1280 MHz	Television
2300 to 2450 MHz (see	
notes 3 and 4)	
3.3 to 3.5 GHz (see	
notes 3 and 6)	
5.65 to 5.85 GHz (see	CW MCW AFSK FM
notes 3, 4 and 7) \ 10.0 to 10.5 GHz (see	AM and Pulse
notes 3 and 8)	Aw and Puise
24.0 to 24.05 GHz (see	
note 5)	
24.05 to 24.25 GHz (see	
21.00 10 21.20 0112 (500	

NOTES

- 1. This band is shared with Defence services; amateur usage is on a non-interference basis to Defence stations.
- 2. This band is shared with aeronautical radionavigation (radio altimeters) and radiolocation. Amateur usage is on a non-interference basis to these services.
- 3. This band is shared with the radiolocation service; amateur usage is on a non-interference basis to this service.
- 4. The frequencies 2450 MHz and 5.8 GHz are designated for industrial, scientific and medical purposes with emissions confined within the limits of \pm 50 MHz and \pm 75 MHz respectively of these frequencies. Amateur stations operating within these limits must accept any harmful interference that may be experienced from the operation of ISM equipment.

GENERAL

- NFM-narrow-band frequency modulation; the bandwidth of which should not exceed 6 kHz.
- AM-amplitude modulation telephony, including SSB systems. Slow scan TV may be used wherever AM is authorised.
- FM-frequency and phase modulation telephony.
- FSK-frequency shift keying, with a frequency shift of up to 850 Hz and a maximum bandwidth of 1.1 kHz.
- AFSK-audio frequency shift keying.

For transmissions employing FSK or AFSK, the station's callsign must be sent in international morse code at hand speed at least once every 15 minutes during the course of each transmission.

GRADE 3

For use by amateurs licensed to operate under a Grade III amateur operator's certificate.

Frequencies

(See note 1)

144 to 148 MHz (see

note 5) 420 to 449 MHz (see

notes 2 and 5) 421 to 449 MHz 421 to 449.75 MHz

1215 to 1300 MHz (see note 3)

1250 to 1280 MHz

2300 to 2450 MHz (see notes 3 and 4)

3.3 to 3.5 GHz (see notes 3 and 6) 5.65 to 5.85 GHz (see

notes 3, 4 and 7) 10.0 to 10.5 GHz (see

notes 3 and 8) 24.0 to 24.05 GHz (see note 5)

24.05 to 24.25 GHz (see note 3)

Classes of emission

AM and FM

AM and FM Television Telecontrol

AM FM and Pulse Television

AM FM and Pulse

NOTES

- 1. Amplitude modulation (AM) includes SSB systems; frequency modulation includes phase modulation. CW/MCW types of transmission are not permitted.
- 2. This band is shared with aeronautical radionavigation (radio altimeters) and radiolocation. Amateur usage is on a non-interference basis to these services.
- 3. This band is shared with the radiolocation service; amateur usage is on a non-interference basis to this service.
- 4. The frequencies 2450 MHz and 5.8 GHz are designated for industrial, scientific and medical purposes with emissions confined within the limits of \pm 50 MHz and \pm 75 MHz respectively of these frequencies. Amateur stations operating within these limits must accept any harmful interference that may be experienced from the operation of ISM equipment.
- 5. The band 144-146 MHz may also be used for amateur satellite communications.
- 6. The band 3.4-3.5 GHz is shared with fixed satellite and radiolocation services; amateur usage is on a non-interference basis to this service.
- 7. The band 5.67-5.725 GHz is shared with the space research (deep space) service on an equal basis.
- 8. The band 10.0-10.025 GHz is shared with the weather radar service on meteorological satellites. Amateur usage is on a non-interference basis to this service.

CLASSES OF EMISSION

Different types or radio emissions are normally designated by letters and numerals.

The first letter indicates the type of modulation:a

A: Amplitude.

F: Frequency or phase.

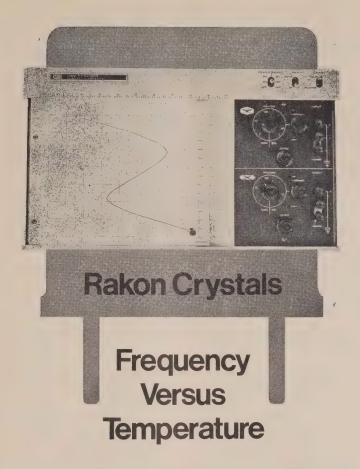
P: Pulse.

This letter is followed by a numeral showing the type of transmission. The important ones are: 0: No modulation (carrier only).

1: Keyed carrier (C.W. or telegraphy).

2: Keyed AF modulated (MCW).

- 3: Sound modulated (AM or telephony).
- 4: Facsimile.
- 5: TV (vision only).
- A second letter is used to indicate any supplementary characteristic:
 - A: Single side band (SSB) with reduced carrier.
 - B: Two independent side bands (ISB).
 - C: Vestigal side band (carrier plus upper side band).
 - D: Pulse amplitude modulated.
 - E: Pulse width (or duration) modulated.
 - F: Pulse phase (or position) modulated.
 - G: Pulse code modulated.
 - H: Single side band with full carrier.
 - J: Single side band with suppressed carrier.



Modern radio communication systems utilizing SSB techniques and narrow channel spacing rely on precise frequency control.

Exacting specifications are placed on quartz crystals for this type of equipment, one of the most important being frequency stability over operating temperature ranges.

To meet today's demands Rakon uses temperature testing instruments which provide automatic control and monitoring of crystal frequency/temperature

characteristics. Result: an accurate record of crystal behaviour over temperature ranges between -55° C to $+105^{\circ}$ C, can be supplied with each unit.

Continuing research, and the latest techniques in crystal engineering, enables Rakon to offer units with stabilities of \pm 5ppm from -10° C to $+60^{\circ}$ C.

For further information and prices on Special Application crystals write to:



RAKON INDUSTRIES LTD.

9 George Street, Mt. Eden, Auckland, Telephone 605-010, Cables: RAKON:

EXAMINATION SYLLABUS

for the AMATEUR OPERATOR'S CERTIFICATE

Information supplied by the N.Z. Post Office

General

1. The examination for an Amateur Operator's Certificate is set within the provisions of the Post Office Act and Radio Regulations made thereunder. It does not replace any examination provided for under the Electricians Act 1952.

2. Except as provided for in Regulation 73, an Amateur Operators Certificate may be issued only to a natural-born or naturalised British subject, who is

not less than 14 years of age.

3. There are 3 grades of Amateur Operators Certificate which provide for the operation of amateur stations on authorised frequencies as follows:—

Grade I: all New Zealand amateur bands.
Grade II: 1875-1900 kHz, 3500-3900 kHz, 5153 MHz, and amateur bands over
144 MHz.

Grade III: amateur bands above 144 MHz only.

Syllabus

4. To obtain an Amateur Operators Certificate of Grade III, a candidate is required to pass an examination comprising—

Section A: A written examination in the elementary principles of electricity, radiotelegraphy, and the adjustment and operation of radio apparatus used in a typical amateur station (also see paragraph 13);

Section B: A written examination in such of the radio regulations as are applicable to the amateur service.

5. To obtain an Amateur Operators Certificate of Grade II, a candidate is required to pass an examination comprising:

Sections A and B (see paragraph 5); and

Section C: A morse operating test, both sending and receiving, each for a period of three minutes, at a speed of twelve words a minute, five letters comprising a word. The receiving test is to be written.

6. To obtain an Amateur Operators Certificate of Grade I, a candidate is required to have operated in the 3500-3900 kHz band under a Certificate of Grade II for at least a year and to have had not less than 50 contacts in this band. In addition the candidate is required to show by a further morse operating test (as outlined in Section C of paragraph 5 above) that he is still capable of sending and receiving 12 wpm. On satisfying these requirements a certificate of Grade I will be issued.

7. If the holder of a Certificate of Grade III subsequently passes a morse operating test at 12 words a minute he will be issued with a Certificate

of Grade II.

Partial Pass

8. Credit will not be given for a pass in individual sections except that where a candidate in the examination for a Certificate of Grade II passes Sections A and B but fails in the morse operating test, a partial pass will be granted. This will remain valid indefinitely.

Date of Examination

9. The examination is conducted on the first Wednesday, in March and September. The morse operating test is held in the morning and Sections A and B between the hours of 1.30 p.m. and 4.30 p.m. Morse operating tests to complete partial-passes or to qualify for a Certificate of Grade I are held on the first Wednesday of each month. The written sections cannot be taken separately.

Applications

Fees

10. Intending candidates should make application at the nearest Post Office Engineer's Office on form Tel. 196 which should show whether the examination is for a Certificate of Grade I, Grade II or Grade III. The candidate's birth certificate should accompany the application which must reach the Engineer's Office not later than the 15th of the month preceding that in which the examination is held.

11. For a Certificate of Grade II, or Grade III: \$2.00. For a morse test only i.e., to complete a partial pass, Grade II or to qualify for a Grade I Certificate: \$1.00.

Specimen Papers

12. Copies of specimen examination question papers may be obtained from Post Office Engineers' Offices at a cost of 10c per set.

Detailed Syllabus of Technical Paper

13. The following detailed syllabus covers the scope of the technical written paper (Section A) referred to in paragraph 4:—

Elementary Electricity and Magnetism-

Elementary theory of electricity; conductors and insulators; electrical unit; Ohm's Law; resistors in series and parallel. Power. Permanent magnets and electro magnets and their use in radio work. Batteries. Self and mutual inductance; types of inductors used in transmitting and receiving circuits. Capacitance, construction of various types of capacitors; their arrangement in series and parallel. Simple calculations.

Elementary Alternating Current Theory—

Alternating currents and voltages. Alternating current theory incorporating circuits with inductance, capacitance and resistance. Impedance. Resonance. Coupled circuits. Acceptor and rejector circuits. The transformer; impedance ratio and turns ratio, eddy currents.

Thermonic valves and Semi-conductors— Characteristics and essentlay construction of transistors, semi-conductor diodes, thermonic diodes, triodes, multi-electrode valves. Use of semi-conductor devices and valves as oscillators, amplifiers, detectors and frequency changers. Distortion; harmonics; push-pull operation. Power rectification; stabilisation and smoothing; typical power supplies for low power transmitters and receivers.

Radio Receivers

General principles of operation of TRF and super-heterodyne receivers including double conversion systems on MF, HF and VHF. Detectors. mixers, local oscillators, filters. B.F.O., A.G.C., negative feedback, selectivity, sensitivity. Reception of

AM, FM, SSB, CW transmissions.

Propagation

Natural and propagation of radio waves on MF. HF and VHF. Ionospheric and tropospheric conditions and their effect on propagation.

Aerials

Common types of receiving and transmitting aerials. Transmission lines. Directional systems. Aerial couplings to lines and transmitters. Matching. Dummy load. Standing waves.

Transmitters

Oscillator circuits, crystal and VFO. Buffers, multipliers, power amplifiers. Tuning methods, neutralisation. Modulation, AM, FM. SSB generation, filter and phasing methods. Keying methods and key click reduction. Microphones. Transmissions at medium, high and very high frequencies. Interference

Frequency stability, avoidance of harmonic radiation and of interference by shock excitation. Means of preventing spurious emissions. Dangers of over-modulation. Devices for reducing interference with nearby radio and television receivers.

Measurements

Measuring instruments. Measurement of frequency. Measurement of current and voltage including audio and radio frequencies. Measurement of power input to the final stage(s) of a transmitter. Consideration of

peak envelope power. Use of the cathode ray oscilloscope for the examination of waveforms. Measurement of standing waves. Measurement of resistance, including bridge methods.

Safetv—

Safety precautions and resuscitation practices.

Text Books

14. The following selection of suitable text books is suggested for study purposes:— Radio Communications Handbook.

Radio Society of Gt. Britain.

The Radio Amateur's Handbook.

American Radio Relay League.

Foundations of Wireless.

8th Edition.

M. G. Scroggie, published by Iliffe & Sons Ltd.

Basic Electronics.

Parts 1 - 6.

Technical Press Ltd.

Radio & Line Transmission.

Parts 1 & 2.

Danielson & Walker, published Iliffe & Sons Ltd.

Direct Current & Magnetism.

Philips, published by Iliffe & Sons Ltd. Philips Technical Library.

Alternating Current & Acoustics.

Philips, published by Iliffe & Sons Ltd. Philips Technical Library.

Radio Valves.

Philips, published by Iliffe & Sons Ltd. Philips Technical Library.

Diodes & Transistors.

(General Principles).

Fontaine — published by Philips. Philips Technical Library.

Measuring Methods & Devices in Electronics. Beerens, published by Philips, Philips Technical Library.

REPEATER RULES

1. The Trustees (as listed on the Post Office Licence) to have final responsibility for the repeater operation.

2. The repeater to be owned and maintained by

the Branch.

3. The repeater to be open for use by all licensed amateurs.

4. A.R.E.C. and Civil Defence requirements in areas to have priority use over normal amateur repeater traffic.

5. "Overs" to be kept short.

6. Breaks between "overs" to be frequent to let

other users identify and call in.

7. Stations who can work together direct without using the repeater establish contact only and then change to some other channel.

8. Home station-to-home station contacts are

discouraged.

9. The Radio Regulations to apply at all times, notwithstanding anything in these rules.

10. With exception of mobiles, stations should not

call a general C.Q.

11. Stations using the repeater to identify when calling.

12. No one to be excluded from legitimate operation.

13. QSLs should be clearly marked "via repeater".

14. Contacts via the repeater will not be recognised for any contest or award.

15. A copy of these rules and the names of the Trustees to be posted on the Branch noticeboard. Special conditions: Some repeaters will have some special operation notes, and these will be in a Footnote, under the repeater entry in the Annual Call Book.

A.R.E.C. PROCEDURE

In most AREC search operations outside stations are quite often called upon to assist with relay work and these stations find difficulty in following AREC operating procedure. The following is the basic procedure for Telephony. CW procedure is covered in the AREC Manual.

1. Establishing contact: "ZL2EXA ZL2EXA ZL2EXA. This is ZL2EX. How do you

copy? Over."

- 2. ZL2EXA acknowledges as follows: "ZL2EX this is ZL2EXA Roger, your signals, Readability 5, Strength 8, go ahead. Over."
- 3. ZL2EX replies: "Roger, I have message for you. Message begins. ZL2EX 1, 121320. Addressed Andrews. Text begins. Weather here fine. Signature Gorman. End of message. Over."
- 4. ZL2EXA replies: "Roger No. 1. I have no traffic for you. Over."
- 5. ZL2EX replies: "Roger. No further traffic here. ZL2EXA, this is ZL2EX out."

6. ZL2EXA replies "Roger. ZL2EX, this is ZL2EXA, out."

Note 1: The use of the signing procedures "over" and "out". When you sign "out" it is very desirable to check the channel before you call your next station. Signing out means you have finished your contact—final finals should be avoided.

Note 2: You will see call-signs have been omitted except for calling and signing. Call-signs should, however, be used (a) when other stations are in the operating net, (b) when conditions are poor and there could be some doubt. In these cases the operating station simply signs over as follows: "ZL2EX this is ZL2EXA Over."

ALL A.R.E.C.

COMMUNICATIONS

NOW OPERATE

ON UPPER SIDE-BAND

(U.S.B.)

to conform with international commercial practice

The use of correct operating procedures, whilst it may appear irksome and over-efficient to some, does save considerable time if every operator is aware of what to expect. We should aim at efficiency; efficiency saves time, and seconds are very valuable when a channel is busy. No one objects to the odd wisecrack or personal remark; these all help to relieve the tension, but these remarks must be kept to times when channels are not busy. If a channel is busy, be brief and clear messages quickly and efficiently. Should an operator have an urgent message to clear, he should break in on the channel and say so-but he should use his discretion with the degree of urgency of his message—bearing in mind that out-station traffic must, for obvious reasons, have priority in the use of the channel.

Note 3: The procedure phrase "Break" is never to be used as a directive to another station to transmit. The correct signal for this purpose is the word "over".

Phonetic Code: The following is the standard AREC phonetic code, as agreed to by the recent AREC meeting at Napier.

 A—ALFA
 J—JULIET
 S—SIERRA

 B—BRAVO
 K—KILO
 T—TANGO

 C—CHARLIE
 L—LIMA
 U—UNIFORM

 D—DELTA
 M—MIKE
 V—VICTOR

 E—ECHO
 N—NOVEMBER
 W—WHISKEY

 F—FOXTROT
 O—OSCAR
 X—X-RAY

 G—GOLF
 P—PAPA
 Y—YANKEE

 H—HOTEL
 Q—QUEBEC
 Z—ZULU

 I—INDIA
 R—ROMEO

IMPORTANT NOTE: Phonetic codes are to be used not abused. Code words should be used only when necessary and not when signals can be read with ease.

QSL CARDS

J. W. LEE

(Ex Norm Hopper)

48 Tinirau Street Wanganui

PLEASE SEND FOR PRICE LIST.

What's in line for HF RF





2N5039

Silicon NPN Epitaxial High Speed Switch for HF RF applications in AM and SSB equipment: Ic 20A; VCBO 120V; PT 140W.



2N3878

Silicon NPN Epitaxial High Speed Switch for HF RF applications:

Ic 7.0 A; VCBO 120V; PT 35W.

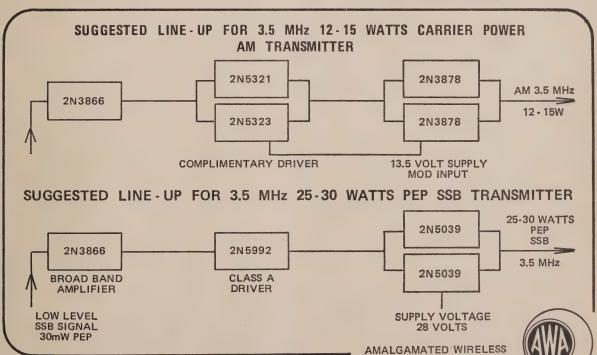


2N5992

Silicon NPN Overlay Emitter Ballasted for 12.5 volt supply: Ic 5A cont; VCBO 65V; PT 35.7W; 7.0W output at 88MHz (10dB Gain). Available ex-stock from

AWA and authorised AWA semiconductor stockists.

(AUSTRALASIA) N.Z. LTD. branches throughout New Zealand



EMERGENCY PROCEDURES

EMERGENCY AND DISTRESS CALLING

Where it is required to attract attention in cases of emergency or distress, there are certain phone and CW calls that are internationally recognised. These should be employed *only* where absolutely necessary for safety of life or property.

for safety of life or property.

DISTRESS: On CW send "SOS" (send this as a single signal); on phone say "Mayday". These signals indicate that the sender is in grave and imminent danger and requests immediate assistance. The distress call has absolute priority over all other

transmissions.

URGENCY: On CW sen "XXX XXX XXX"—send each letter distinctly. On phone say "PAN" (pronounced "pahn") three times. These signals indicate that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft, vehicle, or of some person on board or in sight. The urgency signal has priority over all other communications except distress.

QRRR: This signal is recognised in amateur operation as being a land distress signal or urgency signal and may be transmitted on phone or CW.

It is allowable in cases of extreme emergency to use any frequency or mode of transmission whatever, if the operator considers that he may thus obtain assistance more quickly—but this action should only be taken when normal methods are inadequate.

When using distress or urgency signals always announce call-sign and location and if no contact is made, keep calling with the important parts of the information—you may be heard by some station which is unable to reply.

A.R.E.C.

EMERGENCY FREQUENCIES

AREC is permitted to operate on the following frequencies which are reserved for AREC use in emergencies:—

1875 — 1900 kHz

3500

3900

7100

The general calling frequency for stations requiring assistance in emergency is 3900 kHz and this frequency is monitored by AREC personnel during such mishaps as severe storms, power failures, earthquakes, etc.

Once the initial contact has been made, transmissions should be made only on 3.9 Mc/s or 3.5 Mc/s.

AREC CALL SIGNS

THAT A STATE OF	
ZL1EA	Auckland
ZL1EB	North Shore
ZL1EC	Hamilton
ZL1ED	Te Awamutu
ZL ILD	
ZL1EE	Taumarunui
ZL1EF	Waihi
ZL1EG	Northland
ZL1EH	Waikato East
ZL1EI	Thames
ZL1EJ	Tauranga
	Tauranga
ZL1EK	Western Suburbs
ZL1EL	Cambridge
	Cambriage
ZL1EM	Whakatane
ZL1EN	Franklin
71.450	
ZL1EO	Kawerau
ZL1EP	Waitomo
ZL1EQ	
	Rotorua
ZL1ER	Tokoroa
ZL1ES	Papakura
ZLILO	
ZL1ET	Taupo
ZL1EU	Manukau
ZL1EV	Te Puke
ZL1EW	Rodney
ZL1EX	Area Communications Officer, Auckland
ZLIEX	
	Area G. E. Poulton, ZL1MP
ZL2EA	Gisborne
ZL2EB	
ZL2EB	New Plymouth
ZL2EB ZL2EC	New Plymouth Central Hawke's Bay
ZL2EB ZL2EC ZL2ED	New Plymouth Central Hawke's Bay Wanganui
ZL2EB ZL2EC ZL2ED	New Plymouth Central Hawke's Bay Wanganui
ZL2EB ZL2EC ZL2ED ZL2EE	New Plymouth Central Hawke's Bay Wanganui Hastings
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti
ZL2EB ZL2EC ZL2ED ZL2EE	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EG	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EG ZL2EH	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EG ZL2EH ZL2EI	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EG ZL2EH ZL2EI	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EG ZL2EH ZL2EH ZL2EI ZL2EI	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa
ZL2EB ZL2EC ZL2ED ZL2EF ZL2EF ZL2EG ZL2EH ZL2EI ZL2EJ ZL2EJ ZL2EJ	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu
ZL2EB ZL2EC ZL2EC ZL2EE ZL2EF ZL2EG ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EL	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu
ZL2EB ZL2EC ZL2EC ZL2EE ZL2EF ZL2EG ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EL	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EG ZL2EH ZL2EI ZL2EJ ZL2EL ZL2EL ZL2EL ZL2EL	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington
ZL2EB ZL2EC ZL2EC ZL2EF ZL2EF ZL2EG ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EN	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson
ZL2EB ZL2EC ZL2EC ZL2EF ZL2EF ZL2EG ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EN	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EL ZL2EL ZL2EN ZL2EN ZL2EN	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough
ZL2EB ZL2EC ZL2EC ZL2EF ZL2EF ZL2EG ZL2EH ZL2EI ZL2EJ ZL2EJ ZL2EJ ZL2EL ZL2EL ZL2EL ZL2EL ZL2EM ZL2EN ZL2EN ZL2EN	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood
ZL2EB ZL2EC ZL2ED ZL2EE ZL2EF ZL2EF ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EL ZL2EL ZL2EN ZL2EN ZL2EN	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood
ZL2EB ZL2EC ZL2ED ZL2EF ZL2EF ZL2EG ZL2EH ZL2EI ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EN ZL2EN ZL2EN ZL2EN ZL2EN ZL2EN ZL2EN ZL2EP ZL2EP ZL2EP	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood Napier
ZL2EB ZL2EC ZL2EC ZL2EE ZL2EF ZL2EF ZL2EH ZL2EI ZL2EI ZL2EJ ZL2EL ZL2EM ZL2EM ZL2EN ZL2EN ZL2EN ZL2EN ZL2EN ZL2EO ZL2EC ZL2EC ZL2EC	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood Napier Waimarino
ZL2EB ZL2EC ZL2EC ZL2EF ZL2EF ZL2EG ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EN ZL2EM ZL2EN ZL2EN ZL2EO ZL2EP ZL2EP ZL2ER ZL2ER ZL2ER ZL2ER	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood Napier
ZL2EB ZL2EC ZL2EC ZL2EF ZL2EF ZL2EG ZL2EH ZL2EH ZL2EJ ZL2EJ ZL2EK ZL2EL ZL2EN ZL2EM ZL2EN ZL2EN ZL2EO ZL2EP ZL2EP ZL2ER ZL2ER ZL2ER ZL2ER	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood Napier Waimarino Horowhenua
ZL2EB ZL2EC ZL2EC ZL2EE ZL2EF ZL2EF ZL2EH ZL2EI ZL2EI ZL2EJ ZL2EL ZL2EM ZL2EM ZL2EN ZL2EN ZL2EN ZL2EN ZL2EN ZL2EO ZL2EC ZL2EC ZL2EC	New Plymouth Central Hawke's Bay Wanganui Hastings Kapiti Northern Hawke's Bay-Wairoa Dannevirke Manawatu Wairarapa Rahotu Upper Hutt Wellington Nelson Marlborough Inglewood Napier Waimarino

ZL2EU ZL2EV ZL2EW ZL2EY ZL2EZ ZL2EX	Pahiatua Patea Marton Hutt Valley Tawa Communications Manager and Area Officer, Wellington District
ZL2EXA	Reputy Communications Manager F. R. W. Andrews, ZL2IJ
ZL2EXB ZL2EXC ZL3EA ZL3FB ZL3FC ZL3ED ZL3ED ZL3EE ZL3EF ZL3EF	Deputy Communications Manager (2 Secretary Communications Committe Christchurch Westland South Canterbury Ashburton South Westland Reefton Area Officer, Christchurch District D. J. Mackay, ZL3RW
ZL4EA ZL4EB ZL4EC ZL4ED ZL4EE ZL4EF ZL4EF	Otago Gore Invercargill Balclutha Cromwell Oamaru Area Officer, Dunedin District
	R. W. G. Kingston, ZL4MK

The call-signs given above are the basic section call-signs. In an AREC Section operation or practice base call-sign is to be a three letter call-sign ending in A.

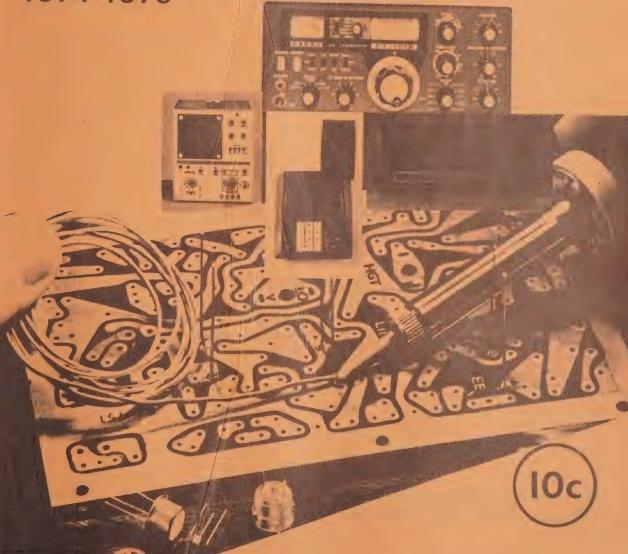
In sections it is customary for all members to be allocated an emergency three letter call-sign, e.g., ZL2EAP. It is advisable to commence issuing calls after letter H so that calls allocated would not clash with those allocated in any search plan. These are used for practice purposes within the section. These call-signs should also be used when acting as a relay station in an AREC emergency net.



209 MANCHESTER STREET, CHRISTCHURCH P.O. Box 1410, Christchurch Phone 67-443

Radio Guide

30th EDITION 1974-1975



HOW TO ORDER BY MAIL

When you order Radio and Television needs please help us to help you by noting the following:—

- 1. Give your name and address clearly.
- 2. List your needs with any explanatory notes which may be required.
- 3. Send cash or postal notes, money order, cheque, or money order telegram.

Please register your letter if you send cash.

If you send too much money, the change will be returned to you.

CHEQUES -

Some of our customers send us blank cheques and leave us to fill in the exact amount. In such cases, if the amount is, say, approximately \$5.50, write across the top of the cheque: "Not over \$6.00". A large number of our customers find this a most satisfactory method.

GUARANTEE

So far, our Mail Order Department has handled somewhere about 315,000 mail orders over the years. In every case, we make it plain that IF YOU ARE NOT COMPLETELY SATISFIED YOUR MONEY WILL BE RETURNED IN FULL. We don't bother about all sorts of legal phrases in our Guarantee. We simply say that, if you're not satisfied, we'd rather RETURN YOUR MONEY IN FULL than lose your goodwill.

POST YOUR ORDER RIGHT AWAY. NO ORDER TOO LARGE—NO ORDER TOO SMALL.

OUT OF NEW ZEALAND BUYERS

Tricity House has built up a list of regular customers in the Cook Islands, Fiji, Samoa, New Caledonia, Australia and other places. THE FAMOUS TRICITY HOUSE GUARANTEE IS EXTENDED TO OUR OVERSEAS CUSTOMERS!

OPEN YOUR CREDIT ACCOUNT RIGHT AWAY

Many of our regular customers leave sums of up to \$20 to their credit so that they can order what they want when they want it. When orders arrive, the amount is deducted from the credit balance. When the credit balance is nearly exhausted, our credit account customers simply send another remittance to keep themselves in credit. This is a handy system for those who live a long way from a bank or post office. It makes buying so simple. We post you a statement of your account every month.

USE THIS EASY WAY

WE CARRY NEW ZEALAND'S LARGEST RANGE OF VALVES AND TRANSISTORS
—ASK US FOR THOSE "HARD TO GET"
ONES.

Today, business has its worries. What with import controls, shipping and other difficulties, we are not always able to supply as complete a range as we desire. Sometimes, too, such circumstances have an effect on prices. Nevertheless, we endeavour to keep our stocks as complete as possible and our prices at good-value level. Should any prices in this catalogue be varied when you order, you will be immediately advised.

COMPONENTS SECTION

ANCHOR BOARDS:	.AERIALS, CAR:
Single Row; 2, 3, 4, 5, 6, 7, 8, lug per lug 2c Resistor Boards: 4 lug 25c; 7 lug 32c; 10 lug 41c; 14 lug 59c. Special Resistor Boards: $4\frac{3}{4}$ x $1\frac{1}{2}$ 8 pair $\frac{1}{4}$ 10c We stock many other combinations of anchor and resistor boards	the .
Special Resistor Boards: $4\frac{1}{3}$ x $1\frac{1}{7}$ 8 pair @ 10c	The second secon
11½" x 13/8" 20 pair @ 20c	Cowl Mount 3 section a \$7.75 4 section a \$8.95
boards.	Cowl. completely retractable Side Mount 9ft a \$9.48 12ft a \$13.60
ADADTORS AUDIO	Gutter Grip, telescopic \$5.80
ADAPTORS, AUDIO: Phono Plug to Phone Plug	Spare car aerial leads Cowl - 4ft 6in a \$2.10 6ft a \$2.25; 12ft a \$2.69
Phono Plug to MC1+	Side fittings 4ft 6" a \$1.43 6ft a \$1.73 12ft a \$2.18
Phone Plug to MC1F	
Miniàture Phone Plug to Phone Plug Phone Plug to Phono Plug	AERIALS, -TV
Phono Plug to Miniature Phone Plug	300 ohm twin ribbon
ALLIGATOR CLIPS:	
All metal	9c yd
Miniature All Metal	
Mini-gator, insulated, assorted colours	We stock all outdoor T.V. aerials CHANNELS 1, 2, 3, 4, 5, 6, 7, 8.
Insulated Medium Size	CHANNEL 3; Dipole & \$6.38 2 element a \$9.41
BATTERIES: Eveready and Philips. Flashlight and Lantern;	3 element @ \$12.01
509 6 volt Lantern Battery. \$116 701 – 3 volt Cycle Lamp Battery. 43c	CHANNEL 6; 5 element \$9.60 CHANNEL 7; 5 element \$9.60
C703 – 4½ volt Flat Battery	Other prices on request
935 1 volt Round Unit Cell	We carry ex stock, T.V. Aerial Accessories, namely masts, mast
701 — 3 volt Cycle Lamp Bartery	straps, standoffs. Prices on request. Rabbits Ears, with ball adjustment and telescopic, to suit all
* 1015 \(\delta \frac{1}{2} \) volt Heavy Duty Cell	channels \$5.80
* 1050 – 1½ volt Heavy Duty Cell	AERIALS - Caravan, Boat All Channel\$12.71
1215 - 1½ volt Extra Heavy Duty Cell. 19c	BEZELS Low Voltage
1235 1 volt Extra Heavy Duty Cell	Sato, miniature type, panel mount, red, blue, green, clear, yellow
731 - 6 volt Lantern Battery	complete with lamp (round or square glass)
: UM5 – 1½ volt Sub-minjature Instrument Cell	Sato, large round 5/8" glass (less lamp)
Radio Batteries: At the standard security of the standard security and the standard security of	Red, blue, green, clear, vellow: 45c
* 216 9 volt Energiser 526	With square glass (less lamp)
276P 9 volt Energiser \$127 467 67½ volt Mini Max B Battery \$1.70 482 45 volt Mini-Max B Battery \$3.13 739 9 volt Portable A Battery \$1.75 744 6 volt Energiser \$1.39 714 41 volt Hars Der Bins (but)	
482 45 volt Mini-Max B Battery \$3.13	BEZELS - Neon 230 volt, Red, Yellow, Clear, Assorted shapes
739 9 volt Portable A Battery \$1.75 744 – 6 volt Energiser. \$1.39	
714 - 4½ volt Heavy Duty Bias Battery \$1.21	CHASSIS, Aluminium
714 - 4½ volt Heavy Duty Bias Battery \$1.21 765 - 9 volt Portable A Battery \$1.75	
2504 - 6 volt Fortable A Battery	4 \ \ \) x3x1 \$1.00 6 \ \) x4x2 \$1.70 7 \ \) x5x2 \$2.10 7 x3x2 \$1.84 8 x4x2 \$2.10 8 x6\ \) x2 \$2.26
2362 – 9 volt Energiser	7×3×2 \$1.84
2364 9 volt Energiser	8x4x2
266 – 9 volt Energiser \$1.36	8x6;x2 \$2.26 11x8x3 \$2.94 12x8x2 \$2.94 10'y5y2 \$7.58
6 1½ volt Round Dry Cell\$1.13	12x8x2 \$2.94
OUR LARGE TURNOVER ENSURES OUR BATTERIES ARE	10;x5x2
ALWAYS FRESH:	Mini-Boxes
BATTERY CHARGERS:	12x8x2 \$2.94
S.T.C. Dual 6 volt and 12 volt Charger.	4x5x6
Maximum 6 amp charging output with meter	Amplifier cases also available.
BECQ, Dual 6 and 12 volt, 5 amp Charger\$19.95	INSTRUMENT CASES
BATTERY CARRIERS: These carriers are ideal both for the home constructor and fit	 now available in two tone light brown — ideal for the small project.
most replacement radio carriers:	6" x 2" x 4"
915 size (penlite) 2's a 40c; 4's square a 50c 4's (2x2) a 50c	8" x 2½" x 4"\$2.75
6's (3x3) = 63c. 935 size (M/S torch cell) 2's = 49c; 4's (2x2) = 58c; 6's (2x3ir	9" x 3½ x 4"
line) a 76c.	COIL FORMERS:
950 size (L/S torch cett) single # 45c; 2's # 54c; 4's (2x2) 85c; 6's (2x3 in line) # 99c.	V.H.E. Coil Formers and Cans complete with all Hardware 22c
Plastic Tubes: 4x935 a 22c; 4x950 a 25c	Former and E29 slug only
	Q.V.H.F. Coil Formers, Cans and fittings.
AERIALS. — RADIO: 20ft Whip, chimney mounting, and a second secon	1 Poly Coil Formers with slug. 42c
20ft Barge mount	Poly Coil Formers with slug
Aerial wire copper 100ft coils	3/8" Poly with feet and slug 26c
Insulators	Former with Retaining Clip and Slug
S/S \$1.55, L/S \$1.90	

COIL FORMERS and CANS:Former size $\frac{1}{4}$ ", complete with can, mounting wafer and slug, all 7/8" square cans37cSmall size 1 3/8 inch overall height)
COIL FORMERS — PLUG IN 4 pin, 5/8" diameter 1 3/8" high complete with socket 45c 8 pin - octal, 1¼" diameter, 2 3/8" high
CRYSTAL SETS: One Transistor Kitset, complete with instruction sheet. \$5.80 Coils only. 85c Diodes 20c High Impedance Earpiece. \$1.10 Variable Condenser. 95c Plastic Midget Condenser with Dial 75c Fahnstock Clips. 4c High Impedance Headphones. \$3.75
CRYSTALS: We carry ex stock all common frequencies Particular frequencies ground to order FUNDAMENTAL ALL GENERAL PURPOSE

80 – 99 KHz \$25.65
100 – 199 KHz \$15.65
200 - 999 KHz \$12.50
1000 - 1499 KHz \$15.75
1500 - 1999 KHz \$12.00
2000 - 14999 KHz \$9.00
15000 - 20000 KHz
\$10.15
OVERTONE
15-60 MHz \$10.00
60 - 75 MHz \$12.50
75 - 100 MHz \$14.95





CITIZEN BAND CRYSTALS, wire in type HC18 \$6.60 pr. (N.Z. Channels 1, 2, 3, 4, 5, 6, 7.) All crystals available in HC6U (HC6U with adaptor pins for FT 243, HC18/U, HC25/U Industrial tolerance available at additional cost. Delivery at special frequencies approx. 10 days

Variable, Panel Mount	C804	5nf a \$1	30 10	of a S	1 30 - 3	Spf.
\$1.30; 50pf a \$1.40; \$1.80.	75pf	\$1.50;	100pf	a \$1.0	60; 15	Opf a
5095 Double Bearing	with	Extended	Shaft	25pf,	50pf,	75pf.

5096 Double Bearing 2 Gang 25pf, 50pf, 75pf, 100pf \$3.00 5096 Double Bearing 3 Gang 10pf, 25pf, 50pf, 100pf \$3.85 4280 3 x 22.5 pf Variable \$2.60.

C808 Split Stator 10+10pf \$2.15; 43+43pf \$2.35; 63+63pf

\$2.35. C719 Butterfly 4pf a \$1.50; 12pf a \$1.60; 17pf a \$1.95 150pf 1500 volt Tank Condensers with extended shaft \$5.95

CONDENSERS — Generator Alternator:			
for Generator	5u	f a	550
for Alternator	Buf =	. 4	1 40
for Radio Telephone/Amateur use, Coaxial type	2uf a	\$:	2.35
CONDENCEDO			

CONDENSERS

- Low Voltage Electrolytic type for transistor work

1uf 16 volt & 15c 2.2uf 16 volt a 15c; 4.7uf 16 volt a 15c;
10uf 16 volt & 15c; 22uf 16 volt a 15c; 22uf 25 volt a 20c;
50uf 16 volt & 15c; 50uf 25 volt & 23c; 50uf 35 volt & 23c;
50uf 50 volt & 25c; 100uf 16 volt a 15c 100uf 25 volt a 21c;
100uf 50 volt & 27c; 220uf 16 volt a 20c; 220uf 36 volt a 36c;
220uf 50 volt & 53c; 470uf 16 volt & 22c; 470uf 25 volt a 40c;
470uf 50 volt & 45c; 1000uf 16 volt & 33c; 1000uf 25 volt a

45c: 1000uf 50 volt & 65c. 45c: 1000uf 50 volt@ 65c

CONDENSERS - Philips Pinup Ceramic 500 volt D.C. Values stocked -2, 3, 4, 5, 10, 15, 22, 27, 33, 39, 47, 56, 68, 82 100, 120, 150, 220, 270, 330, 390, 470, 560, 680, 820, 1000, 1200, 1500, 2200, 3300, 4700, 5600, 6800, 8200, 10,000 pfd. 10c

CONDENSERS — Silver Mica 500 volt D.C.: Values stocked — 1.2, 1.5, 1.8, 2.2, 3.3, 4.7, 5.6, 6.8, 8.2, 10, 15, 22, 27, 33, 39, 47, 56, 68, 82, 100, 120, 150, 220, 270, 330, 390, 470, 560, 680, 820, 10c; 1000, 1500, 20c; 2200, 2700, 20000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 2000, 20 2700, 3300, 3900 25c.

CONDENSERS - Disc Ceramic 750 volt D.C. Values stocked — .001, .002, .0047, 12c; .01 13c.

**CONDENSERS — Disc Ceramic 3K vult D.C.:

Values stocked — 100, 150, 270, 330, 470pf, .001, .0047, .01

CONDENSERS - Electrolytic - Can type 2200uf 63 volt a \$2.10; 3300uf 25 volt a \$1.70; 5000uf 70

Volt a \$2.80.

CONDENSERS — Polyester 400 volt D.C.:

Values stocked; .001 .0022 .0033 .0047 .01 .022 .033, 15c; .047 .1 20c; .22 a 22c; .33 .39 a 30c; .47 a 44c; 1uf a 57c; 2uf (250volt) a 65c.

CONDENSERS — Electrolytic 450 volt D.C., Pigtail:

1uf a 33c; 8uf a 33c; 10uf a 30c; 32uf a 52c; 47uf a 60c

CONDENSERS - Electrolytic, Can type 1 3/8" diam. 40/40/20uf 350 volt a \$1.20; 40/40/20uf 450 volt a \$1.80; 100uf 200 volt a \$1.18; 50/50uf 450 volt a 99c; 200/100/50/25uf 300 volt a \$2.40; 40/40/20 350 volt (34) diam.) \$1.20

A "MUST" for all Radio Operators, a Tricity House 'MINI-LOG'

COAXIAL CABLE:	
TP 446 Light Audio Cable	20c vd
The English Addition Control C	
ET6M (3-16" diam) 70ohm	20c vd
ETO44 (14)	200 ya
ET8M (1/4" diam) 70ohm	20c vd
DT11 10'0" F 170 1	
PT11 (3/8" diam) 70ohm	4 Oc. vd
HD76/DT107/E/16" EO	20
UR76/PT107 (5/16" diam) 50 ohm	ZUC Va
LIDET/DIE (DOOLL) (1" diam) FO -b	70
UR67/PT5 (RG8U) (½" diam) 50 ohm	/ UC ya
Note: The above are the nearest fractional sizes.	

RIBBON FEEDLINES - TV Cable 300ohm Black 8c yd; White 9c yd. LO-LOSS, Black only, 9c yd.

MULTI-CORE CABLE: Lighting Flex, Twin, Brown, Black, White Lighting Flex, 3 Core. Flat. Brown Black For Jug Cords, Heaters. Irons. etc Domestiflex For Heavy Duty Heaters etc 3/40/.0076 sheathed TP3 102 4 Core Flex 25c yd TP3104, 6 Core Flex	15c 35c 35c	vd yd yd
COUPLERS: 1 to 1 Aluminium Shaft Couplers 1 to 1 Flexible Coupler – Jackson, miniature	3 . \$1.0	2c 0 5

DIALS and ACCESSORIES: Jackson Full Vision Dial Assemblies 6/36..... Jackson Slide Rule Dial Assemblies SL 16.

Jackson Planetary Drive 6 to 1 Ratio \$1.05 Jackson Planetary Drive, dual ratio... \$1.80 Jackson Epicyclic Drive....... \$1.30



FLUX: Coroline Paste - for security in soldering 50c

FUSES:		
Standard, 14" 100.	250, 500 m/a:	1, 2, 3, 5, 10, 25 amp 12c
Standard, Slow Blow	/ 🗦 / .4 5	10amn 27.
Philips 3", 80, 100,	125, 250, 400.	500, m/a; 1, 2amp 12c
		600

FUSE HOLDERS

New Zealand's largest stock of radio components.

The state of the good of ook	or radio components.
GRILL MATERIAL: For speaker enclosures: Tygan woven plastic, several patterns stocked – send for a free sample	Scope Iron Spares Standard: Bits a 25c; Instrument Bits a 25c; Elements a 25c Mini-scope: Bits a 25c; Elements 25c Also available replacement cords, barrels, beads, push-rod
GROMMETS : Rubber \(\frac{1}{4} \tilde{\tilde{\tilde{1}} \tilde{\tilde{6}} \) 6c	assemblies etc.
HEADPHONES: High Impedence, Crystal Set Type	ORYX INSTRUMENT IRONS Model 6A, 6 volt. \$4.80 Suitable transformer \$4.31 Spare bits. 62c Light duty. 30c
transistor radios	Light duty
PIONEER SE-50 - Super De Luxe. \$63.75 PIONEER SE-20A - popular model. \$30.24 AKG most comfortable. \$29.40	JACKS: Light duty
SANSUI SS2 — needs no introduction	Japanese miniature sockets
ASHIDAVOX EARPET 'PERSONAL Earpside Ideal for transistor and TV personal listening	radio-grams
HEATSINKS FOR POWER TRANSISTORS: Aluminium Extruded Heat Sink 4½" x 3" a \$1.10; 6" x 4½" a \$1.50; 12" x 4½" a \$2.38	LETRASET instant lettering
We stock a complete range of Heat Sinks and mounting Hardware for Transistors.	LETRA-SET: Letra-set Instant Lettering, Dry Transfer Titles for electronic equipment, BLACK & WHITE\$3.90
INTERCOM SETS:	Meter and Dial Marking Kit 35c Letra-set Tools \$9.00 Letra-set Electronic Symbol Kits \$9.00 Letra-set Letter Sheets, black \$1.50
TELECALL	LAMP CONVERTER: Perlux Lamp Converter, Bottle Stopper
	- A San Carlotte Control of the Carlotte Control of th
2-Position Intercom	(
	LEADS TEST
Main Body 44/1/1/2	Complete with prods and tips. Two types available, with Banana Plug and thin pin
Main Body Hole for Cord	Test Lead Cable, Red and Black
Hole for Cord — Back Cover Case	NE-O-LITE
TALK Button OFF Button CALL Button	AC-DC NEON TESTER TRICITY HOUSE price
TALK BACK SYSTEM TRICITY HOUSE PRICE, \$27.95	\$1.03
	CABLE:
INSULATORS: Egg, for all aerial systems 24c, Large Heavy Duty24c TV refer 'Aenals.'	Hook-up Wire: Colours — Red, Black, Yellow, Green, Blue, White, Orange, Brown, Purple. 7/0076 a 3c yd; 10/010 a 4c yd
IRONS – SOLDERING: Solon the tradesman's tool, used by ALL professional and amateur radio enthusiasts.	148 AUTO CABLE
615-15 watt, pencil bit. \$6.10-625-25 watt, pencil bit. \$6.48 694-65 watt, chisel bit. \$8.67	154 AUTO CABLE
615 element assemblies \$4.80, bits 36c 625 elements \$2.53, bits with pins 52c, bit holders \$2.18	Four Core Shielded Cable (individually shielded)
615 element assemblies \$4.80, bits 36c	Four Core Shielded Cable (individually shielded)
Solon Soldering Spares 615 element assemblies \$4.80, bits 36c 625 elements \$2.53, bits with pins 52c, bit holders \$2.18 694 elements \$2.21; bits \$2.03. Other spares available, eg handles, cords etc. INSTANT HEAT IRONS: SCOPE (Standard model) \$7.86	Four Core Shielded Cable (individually shielded)
615 element assemblies \$4.80, bits 36c 625 elements \$2.53, bits with pins 52c, bit holders \$2.18 694 elements \$2.21; bits \$2.03. Other spares available, eg handles, cords etc.	Four Core Shielded Cable (individually shielded) 45c yd Twisted Black and Red 10/010 8c yd Miniature Twisted Hearing Aid Cord 20c yd OSKER SWR — 200 Standing wave indicators Specification

METERS-PANEL:



by JAPAN'S LEADING MANUFACTURERS SEW HIOKI

MK38/MR38 – face size $1\frac{3}{4}$ " square: 50 u/a @ \$5.90; 100 u/a \$5.20; 500 u/a @ \$4.30; 1, 5, 10, 25, 50, 100, 150, 300, 500 m/a 1 amp, 5 amp @ \$3.90, 5 @ \$4.90; vu @ \$5.30; 15 volt, 25

volt @ \$3.90

MK52/MR52 — face size 2 3-8 square:
50 u/a @ \$7.10; 100 u/a @ \$6.50; 500 u/a @ \$5.50; 1, 5, 10,
25, 50, 100, 150, 300, 500 m/a, 1 amp, 5 amp @ \$4.30; 15
volt, 25 volt @ \$4.30; 5 @ \$5.50; vu @ \$8.40.

EDGE TYPE 'S' meters (as used in TAIT CB4 transceivers@
\$4.75

EDGE TYPE CENTRE ZERO BALANCE METERS...... \$2.20

F-75K

ONE OF THE MOST POPULAR MULTIMETERS AT TRICITY HOUSE



HIOKI, Model F-75K 30k ohms per volt, meter protection, signal injector, our most popular line, supplied in attractive leather case

PHILIPS — Model SMT101, 50,000 ohms per volt, with a particularly easy read dial scale, Voltages ranging between 6 volt and 1.2kv, both A.C. and D.C. A special current range of 12 amp. Ideal for the experimenter......\$29.95ea

SANWA P2B Multimeter. Case size $4\frac{1}{2}$ x $3\frac{1}{4}$ x 1 3/8. Voltage Ranges: 10, 50, 250, 500, 1000 volts AC and DC. Current Ranges: 500 u/A, 10, 250 mA. Resistance Ranges: x 5, x 500 2000ohms per volt.

An excellent buy for the workshop \$12.67
MULTIMETERS FOR THE ADVANCED ENTHUSIAST
KYORITSU FET VOM K-200 OdB = 1mW (600ohm). Battery
operated. Voltage Range: 3, 1, 3, 10, 30, 100, 300, 1000 volts.
Current Range: 30, 300 u/A, 1, 3, 10, 30, 100, 300mA.
Resistance Range: x 1, x 10, x 100, x 1000, x 10K, x 100K, 1M

TECH TE-130, 1000 ohms per volt. It's just a pocket unit, for mirrored scale, easy to read. All popular ranges......\$20.65 HIOKI L-55 FET 10 meg ohm — the De Luxe Instrument, small size and supplied with carrying case....\$49.95

230v plugs and sockets - full range.

PLUGS AND SOCKETS for EVERY PURPOSE





Belling Lee: Coaxial RF and Audio Plugs. Finished in Aluminium

32c; Red, Black, White, Green plastic 25c.
Belling Lee: Coaxial RF and Audio Chassis mounting sockets in
Aluminium Flush and Protruding 25c, Red, Black, White, Green plastic protruding 25c.

Belling Lee: Coaxial Joiners 44c;

BULGIN Plugs and Sockets complete: P194 6 pin \$1.73; P360 3 pin small mains type \$1.01; P73 3 pin large mains type \$1.38.

Banana Plugs and Sockets: Red, Black, plugs 14c; sockets 14c; Miniature Banana Plugs and Sockets, Red and Black 28c pr.

Miniature Banana Plugs and Sockets, Red and Black 28c pr. TV Aerial Wall Plugs and Sockets, protruding and flush 60c pair. Cinch type Plugs and Covers and Wafer Sockets: 2 pin Polarised 15c pr; 3, 4, 5 pin 15c pr. Plugs only 12c. Moulded plastic (cinch pattern) 4 pin plugs and sockets 40c pr. SATO (Jones pattern) Cord Plugs and Chassis sockets: 2 pin \$1.00; 4pin \$1.75; 6pin \$1.50; 8pin \$1.60; 10pin \$2.36; 12pin

SATO (Jones pattern) Cord Plug and Cord sockets: 2pin \$1.30; 3 pin \$1.40; 4 pin \$1.75; 6 pin \$2.10; 8 pin \$2.25, 12 pin \$2.90.

SATO Cord Plug and Chassis socket, white, light duty: 2pin 30c; 3pin 40c; 4pin 48c; 6pin 68c; 8pin 80c; 12pin \$1.12, SATO Twin Speaker Plugs and Sockets — ideal for stereo speaker sockets, 50c complete.

VHF/UHF RF COAXIAL PLUGS:

UHF PLUGS

New low TRICITY HOUSE prices







PL259



SO239

PL259 Plugs a 70c ea. SO239 Sockets a 70c ea.

Plugs only 20c: Sockets only 20c. Phone Plugs Standard 1" barrel. Bakelite, 35c; Metal 45c. |
Bulgin Right Angle 70c; Bulgin P38 64c; Sockets, chassis mount non-insulated 30c.
Cord Sockets, pakelite 60c, metal 60c.

FIBRE GLASS BLANKS for AMATEUR MOBILE AERIALS \$2.50

Keep this price list handy.

POWER PLUGS:
For National Transistor Radios and Recorders
For Sanyo Transistor Radios and Recorders
For Aiwa Transistor Radios and Recorders
Chassis Sockets for same: National 45c; Sanyo 45c; Aiwa 45c
(switched 55c).
For Philips Record Players and units, plugs
DIN/EUROPEAN AUDIO PLUGS and SOCKETS: 3pin, Cord
Plugs 55c; Chassis Sockets 35c; Cord Sockets 60c.
5pin, 180deg and 270deg, Cord Plugs 55c, Chassis Sockets
35c; Cord Sockets 60c.
6pin, Cord Plugs 55c, Chassis Sockets 35c, Cord Sockets 60c.
Specific Plugg on a resident State Soc. Cold Sockets Duc.
Speaker Plugs (one round, one flat pin) 35c, Chassis Sockets @ 30c.
5pin (in line) Connecting Plugs 55c.
3pin (in line) 2 round and one flat centre pin 50c.
AIWA Microphone Plugs: 2 and 3pin Cord Sockets (for the connection to AIWA Microphones \$3.60 ea. 2pin Cord Plug and Sockets (for extensions) \$2.70.
ABARHENOL tune Missenhane Connectors MC15 (Corous an

AMPHENOL type Microphone Connectors: MC1F (Screw on cord socket 80c; PC1M (Chassis mount male) 44c, Midget Cord Plug and Chassis Socket complete 50c. Battery Plugs for 6 and 9 volt Batteries 15c. Clip and cable for 216 Battery 15c.

Acme Microphone Connectors: Plugs, 2pin \$1.80; 3pin \$1.04, Chassis Sockets, 2pin 47c; 3pin 79c. Cord Socket, 2pin 75c; 3pin 94c.

POTENTIOMETERS:

Linear, wire wound, 10, 15, 25, 50, 100, 250, 500, 1k, 2k, 3k, 5k, 10k, 25k, IRC, 85c ea. Linear, carbon, 1k, 5k, 10k, 50k, 100k, 250k, 500k, 1 meg, 2 meg, 2 meg, Ducon or Lesa....

Log carbon, dual gauged, 50k, 100k, 250k, 500k, 1 meg. Linear, carbon ganged, 5k, 10k, 25k, 50k, 100k, 250k, 500k, 1 meg, 2 meg. \$1.10 ea. Carbon Potentiometers, small diameter, 5k, 10k, 50c ea.; with

switch, 70c ea. Carbon Preset Potentiometers: 50, 100, 250, 500, 1k, 2k, 5k, 10k, 25k, 50k, 100k, 250k, 1 meg, 2 meg, 20c ea.

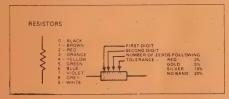
Wafer type 20c; ceramic type 25c.

Slider type, complete with knob.		
Log, 5k, 10k, 22k, 50k		
Linear 50k, 100k, 250k, 500k		
Ganged Log, 50,k, 100k		\$1.80

RESISTORS



Values are shown in ohms, Kohm (thousands of ohms) and Mohm (millions of ohms). They have no polarity and can be wired in either way round. Values are usually expressed by colour coded bands (see colour code chart below) so it helps to lay resistors same way round to ease checking. Wattage ratings refer to the power that can be dissipated, so a higher wattage than specified does not matter apart from space taken up. Tolerances are usually 20%, silver band denotes 10% gold 5%. Series connections give higher values and dissipations. Parallel connections reduce values (if values are the same just divide by the number of resistors) but multiply the dissipation.



Crack Carbon, High Stability, 5% tolerance, 1/4 watt, 4c; 1/2 watt, 6c; 1 watt 12c. 6c; 1 watt 12c. Sizes Stocked: 5, 1, 1,2, 1,5, 2,2, 2,7, 3.3, 3.9, 4.7, 10, 18, 22, 27, 33, 39, 47, 56, 68, 82, 100, 120, 150, 180, 220, 270, 330, 390, 470, 560, 680, 820, 1K, 1,2K, 1,5K, 1,8K, 2,2K, 2,7K, 33K, 3.9K, 4.7K, 5.6K, 6.8K, 8.2K, 10K, 12K, 15K, 18K, 2,2K, 27K, 33K, 3.9K, 4.7K, 5.6K, 6.8K, 82K, 100K, 120K, 150K, 180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 1meg, 1.2meg, 1.5meg, 1.8meg, 2.2meg, 3.3meg, 3.9meg, 4.7meg, 5.6meg, 6.8meg, 8.2meg, 10meg.

Wire Wound, 5 watt, 10% tolerance. Values Stocked: 4.7, 5.6, 10, 22, 27, 33, 39, 47, 100, 150,
220, 270, 330, 390, 470, 560, 680, 820, 1K, 1.5K, 2.2K, 2.7K, 4.7K, 10K, 15K
Wire Wound, 10watt, 10% tolerance, as above, also 22K, 33K, 39K, 47K
400

Bridge type for Battery Chargers, 5 amp Universal \$3.12; Diodes, 1000 volt P.I.V. @ 1 amp @ 45c 200 volt P.I.V. @ 112 amp 40c.

RELAYS

Double Pole, Double Throw, 6 to 18 volt, 280 ohms....... \$4.10 Double Pole, Double Throw, Octal Plug In Type. 12 volt..... \$4.50 Arrow, D.P.DT. Change Over, 12 volt D.C. and 230 volt A.C.

SOLDER LUGS:

Silvered Double Ended to fit over 1/8" bolts and nuts......5c doz



Size 5 Saybit dispenser

Contains 18 s.w.g. Ersin Multicore Savbit alloy in a continuous coil used direct from the easy-to-use, freestanding dispenser.

TRICITY HOUSE PRICE 41c

SOLDER:

Ersin, the world's best for radio constructors. Tubes a 41c; 1 bs 16g @ \$2.96; 20g, \$2.96.

ARRIVING SOON **PHILIPS** 1974 POCKET BOOK ORDER NOW, TRICITY HOUSE price

\$2.10

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Auto, Standard 30c, Shrouded 40c, in line (for Distributor) 30c Push on type (for VWs) 26c. Coaxial Generator Condensors (for Amateur and R.T. use) \$2.35. Standard Generator Condensors 1uf. 55c
Alternator Condensors, 3uf. \$1.40

SWITCHES - TOGGLE:

TORCHES:

We carry a large range of small pocket size torches, up to 6 cell, rubber covered types and lanterns.

Everything for the Radio Amateur





SWITCHES KEY:	
Key Switches TMS T110	90c
Key Switches with large Red or	Black Paddle\$1.70
	A. Carrier M. Carrier

SWITCHES - WAFER:

TRICITY HOUSE prices are keen TMS Miniature



2 pole, 2 position, 1 bank; 4 pole, 2 position, 1 bank; 4 pole, 3 position, 1 bank; 6 pole, 2 position, 1 bank; 1 pole, 12 position, 1 bank; 3 pole, 4 position, 1 bank; 2 pole, 6 position 1 bank

4 pole 2 position 1 bank 3 pole 3 position 1 bank 1 pole 12 position 1 bank 4 pole 3 position 1 bank 2 pole 6 position 1 bank 2 pole 6 position 1 bank 2 pole 6 position 2 bank 1 pole 12 position 2 bank 1 pole 7 position 2 bank 2 pole 6 position 3 bank	\$3.10
2 pole 6 position 3 bank	\$5.30 \$5.60 \$5.10

SPECIAL SWITCHES made to order - 10 days

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SWITCHES - WAFER MINIATURE:	
Radiospares Wafer Switch Kits - make your switch in ju	ist a few
minutes.	
Switch assemblies	\$1.35
Spacers * 4c; Screens * 8c; Wafers * 88c	
Functions available, 4 pole 3 position; 3 pole 4 position;	6 pole 2
position; 2 pole 5 position; 4 pole 3 position; 1 pole 12	
These switches can be used in Tait C.B. Radio Teleph	ones for
crystal switching.	
NOW AVAILABLE, Make your own water switches, wit	h Radio
Spares Assemblies. Standard size wafers and assembly u	nits.
Assembly Units	\$1.55
Assembly Units	\$1.10
SCREENS	12c
LONG SPACERSSHORT SPACERS	5c
SHORT SPACERS	5c
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Jet Aid, switch, control, cleaner, lubricant	\$1.75
Jet Tune, tuner cleaner	
Jet Wet, removes and repels water, lubricates	
Engtrelube	\$2.85
Jet Oil all purpose penetrating oil	,, \$1.20
CRC 2-26, moisture repellent, large can	\$3.00
Servisol, switch cleaning lubricant	00.00
- Now in spray can	\$2.23

SWITCHES - Castelco: Push on/off for Bedlamp replacement	200
Push on/release off (bell push)	30c
Push off/release on (door switch) Luminous torpedo cord switches	30c
Eurimous torpedo cora switches	200

TRIMMERS:

SWITCHES-Rocker type

Double Pole, Double Throw.

Philips Chassis Mount, 3, 6, 12pf 20c; 18pf 25c Philips Beehive Trimmers, 33pf, 33c; 66pf, 36c Philips Encapsulated Trimmers for P.C. Work. 5pf, 30c; 10pf, 36c; 20pf, 44c; 60pf, 50c. Compression Trimmers, 33pf 45c; 220pf, 750pf, 45c.



TERMINALS: Sato, small size, Red and Black	
TOROIDS: Philips Rings 4322 - 020 -36500 6mm 0.D. 40c; 4322 - 020 91010 9mm 0.D. 40c; 4322 - 020 - 91020 14mm 0.D.	
55c; 4322 — 020 — 36550 23mm O.D. 70c; 4322 — 020 — 36570 O.D., \$1.00. 4322 — 020 — 91090 — 35mm \$1.70.	
Balun Cores 20c	
Ferrite Reads 70	

Ferrite Beads	 	 	7c
Ferrite Slugs			8c

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We carry a comprehensive range of tuners, Line Output Transformers, Yokes, for all popular New Zealand made sets.

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Large Selection.			 . 2c per lug

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\$2.90. Type 41/1501: 2.5 inches x 17 inches 16 way, .15 x .15
matrix \$1.80. Type 44/1505: 3.75 inches x 17 inches 24 way,
15 x .15 matrix \$2.50. Type 4/1001: 4.8 inches x 18 inches 21
way, .2 x .2 matrix \$3.10.

MATRIX BOARD: Plain Board
Type 442/4505: 3:75 inches x 17 inches, 24 way, .15 x .15 matrix, \$1.60, Plain Board, unpunched, 12" x 6" x 1/16" 45c. Copper Board (copper one side) 12"x6"x1/16" 85c.

VEROBOARD ACCESSORIES:

Veroboard Pins, small size 10c doz. Large size 10c doz. Etchant

INNOVATORS IN ELECTRONIC COMPONENT DRAFTING AIDS

BISHOP GRAPHICS ACCESSORIES:

Do-nutst 🥠 👚	O C	at NoMF	PD216	Size ,080		60c pack
	. C	at No. MI	PD101	Size .100		60c pack
	0 0	at No. MI	PD 102	Size .125	5.	60c pack
	C	at No. Mi at No. Mi at No. M	PD 139	Size .150 Size .200 Size .250)	60c pack 60c pack 60c pack
Drafting Tape Cat 601 .031			100			50c roll
Çat 602 .050	hilyanid			Lilandi.		50c roll
Cat 603 .062 Cat 604 .080 Cat 605 .100 Cat 607 .150 Cat 608 .250						50c roll 50c roll

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B and O. The B and O cartridge SP14 is a low impedence moving iron pickup for high fidelity reproduction of stereo records. B. and O. cartridges have led the field in hi-fi cartridges in New Zealand for many years. Model SP 10 a \$44.10: SP14 a \$37.00. SP12 a \$59.95.

AUDIO DYNAMICS 220X Stereo Cartridge — with the "Induced Magnet" principle. It combines the best features of the moving magnet and variable reluctance designs into a unique concept which we have named the 'Induced Magnet' Cartridge... \$16.95 Ronette Stereo Cartridge, Crystal, type 105. \$6.38 Ronette Mono Cartridge, Crystal, type 0.V. \$5.12 Electronic Reproducers Cartridge, ceramic, type 5SX-K. \$5.00 BSR Stereo Cartridge, Crystal, High Output, X 5 H. \$3.56 BSR Stereo Cartridge, Crystal, High Output, X 5 H. \$3.56 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.04 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.04 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium, Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium, Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium, Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium, Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium, Output, X 5 M. \$5.00 BSR Stereo Cartridge, Crystal, Medium, Output, X 5 M. \$5.00 BSR Stereo Cartr 5 Contact ceramic saphire St. GP204 (GP300) 5 " " diamond St. GP205 (GP200) 3 " saphire M. GP235 (GP316) \$9.00 \$12.60 \$6.30 3 " saphire St. GP230 Auto Player type saphire M. GP229 Philitina type saphire M. GP231 5 Contact magnetic diamond St. GP410 (GP404) \$40.50 saphire 78 GP408

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Stereo/LP Diamond/78 Sapphire	\$2.50
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STYLI for B and O Stereodyne Cartridges SP1, \$13.30; SP10, \$20.00; SP14, \$17.30; SP8/9 Elliptical \$26.50; SP12 Elliptical \$23.70

TRICITY HOUSE stocks over 200 models of replacement styli, sapphire, diamond. Prices Sapphire, 40c; Diamond, Single Sided, \$1.75; Diamond Stereo/Standard \$2.50; Double Diamond, \$2.95; Stereo LP/78 70c.

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IVDA With switch and a control of the control of th
Hi-mike VDM160, Dual Impedance Microphone, suits almost al
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We can offer, as a general purpose replacement microphones for
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Stage Heavy Duty Floor Microphone Stand, telescopic, 2 section
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Desk wike stand with Switch
We carry a wide range of microphones. New models coming to
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+ Fils	
plus Fils	
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We carry large stocks of screwdrivers for Electricians,	Radio
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We regret that after December 1974 it will not be possible to post magazines on a 12 months subscription basis. Rising costs and ever changing prices make this impracticable. Counter sales will continue as usual.

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Power handling capacity 20watts R.M.S. Fundamental resonance 45 Hz nominal Voice Coil Impedance 8 or 15 ohm Frequency Response 35 Hz to 20 kHz 1/ 6d8

TRICITY HOUSE PRICE \$15.89

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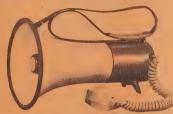
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8" + 3" tweeter & C/O network.

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GOLDRING, Tape Recorder Hea	ad Cleaner Lu	bricant Kit	c
		prioditi trit	\$1.35
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AIWA Telephone Pick-up			
Cassette tape cleaners 'BIB'			\$2.70

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Recording, 3 inch, 5 inch, 7 inch reels, Standard, Long Play, Double Play and Triple Play available. We can supply world famous makes, EMI, IRISH, BASF, MASTER, OVERTURE. Write for your favourite brand. Empty Spools, 3 inch 40c; 5 inch 60c; 7 inch 70c.

ONE TRANSISTOR KITSET
for boys from 8 to 88
OUR PRICE \$5.80



EMI: C30 * \$1.60; C60 * \$1.98; C90 * \$2.75; C120 * \$3.75. PHILIPS: C40 * \$2.10; C60 * \$2.65; C90 * \$3.30; C120 * B.A.S.F. C60 * \$3.25; C90 « \$4,35; C60 Chrome Dioxide » \$4.30; C90 Chrome Dioxide » \$5.75; C120 Chrome Dioxide « AGFA: C60 @ \$4.35; C90 @ \$4.65; C120 @ \$6.20. GOLDRING: C60 @ \$2.55; C90 @ \$3.50. SONY: C60@ \$2.56; C90 @ \$3.36. R.C.A.: C60 @ \$2.00.

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TRANSISTORS

Large stocks, new types constantly arriving. Here is a short handy reference list.

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AC176 Germanium, n-p-n, high gain, Class B output	\$1.26
AC176 Germaniditi, 11-p-11, high gain, Class B output	
AC188 Germanium, p-n-p, (used with AC187)	65c
	\$1.85
	\$1.35
AD 102 Command pri produper tesses triber	\$1.75
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	000

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22", as illustrated, \$811 26" Consolette, \$845

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DISTORTION. Less than 0.25% at 10 watts, 1 kHz.

with tuner, less speakers
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Crystals for Channels 1 ? 3 4 5 6 7 per	set \$6.60
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TAIT CITIZEN BAND TRANSCEIVERS



IONOSPHERIC PREDICTION BY W.MCMILLAN ZL20H

NOTES ON THE IONOSPHERIC PREDICTION TABLES PREPARED BY THE AUSTRALIAN IONOSPHERIC PREDICTION SERVICE—

Ionospheric prediction tables supplied by the Ionospheric Prediction Service of Australia show both the MUF (maximum usable frequency) and the ALF (absorption limiting frequency) at two-hourly intervals over the full 24 hour period. For example, the column headed 18 shows the predictions for 1800 GMT corresponding to 6 p.m. New Zealand time. For intermediate times, interpolation will usually provide a reasonable approximation. The unit for frequencies is 1 MHz.

The MUF may be defined in general terms as the highest frequency which can be transmitted by ionospheric refraction alone between two places. This upper limit to the frequency of the signals reflected depends on the density and height of the ionisation, and varies with the time of day, season, latitude and period of sunspot cycle. Predictions are for the monthly median value, which is the frequency equalled or exceeded 50% of the days during the month at a specified time of day. Generally, except during very disturbed days, the MUF will be within $\pm 15\%$ of the monthly average.

The ALF (sometimes referred to as the lowest usable high frequency) is the frequency below which normal communication over a given path is not possible because of absorption. It will vary with transmitter power and aerial gain, and is not as clearly defined as the MUF. Where the ALF falls to zero, this indicates that the transmission path is in darkness, and under favourable conditions, communication could be possible on all amateur bands below the MUF.

The circuits listed in Break-in have been chosen to give as wide a coverage as possible, noting that the predictions are valid for places up to some hundreds of miles from the cities designated. For places outside these limits, it may be possible to derive an approximate figure from the predictions for places in the same general area or in the same general direction. For example, the MUF and ALF for a circuit to Quito can be roughly estimated by comparing the figures for the circuits to Rio de Janeiro and Barbados. A great circle azimuthal map based on Wellington will be found to be very helpful for DX work.

Unless otherwise stated, all circuits are short path. On the longer circuits, long path propagation is also possible. This applies especially to Western Europe, and predictions for both the long and the short paths to London are shown. The long path (LR) lies approximately south-east and the short path (SR) north-west from New Zealand. As south-western Europe is nearly at the antipodes of New Zealand, other transmission paths are possible under certain conditions.

PHONETIC ALPHABET

Some words are likely to be misunderstood when passed over radio telephone circuits, due to phonetic similarity. A number of phonetic alphabets have been introduced to overcome this, the following being the most generally accepted at the present

A ALFA AL fah B BRAVO BRAH voh C CHARLIE CHAR lee D DELTA DELL tah E ECHO ECK oh F FOXTROT FOKS trot G GOLF GOLF H HOTEL hoh TELL I INDIA IN dee ah J JULIETT JEW lee ETT K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER NO VEM ber		ATMA	
C CHARLIE CHAR lee D DELTA DELL tah E ECHO ECK oh F FOXTROT FOKS trot G GOLF GOLF H HOTEL hoh TELL I INDIA IN dee ah J JULIETT JEW lee ETT K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber			
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G GOLF GOLF H HOTEL hoh TELL I INDIA IN dee ah J JULIETT JEW lee ETT K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber			
H HOTEL hoh TELL I INDIA IN dee ah J JULIETT JEW lee ETT K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber			FOKS trot
I INDIA IN dee ah J JULIETT JEW lee ETT K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber			
I INDIA IN dee ah J JULIETT JEW lee ETT K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber		HOTEL	hoh TELL
K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber	_		IN dee ah
K KILO KEY loh L LIMA LEE mah M MIKE MIKE N NOVEMBER no VEM ber		JULIETT	JEW lee ETT
M MIKE MIKE N NOVEMBER no VEM ber		KILO	
N NOVEMBER no VEM ber	_	LIMA	LEE mah
NO VENT DEI		MIKE	MIKE
O OSCAR OSC		NOVEMBER	no VEM ber
	O	OSCAR	OSS cah
P PAPA pah PAH	P	PAPA	
Q QUEBEC Kwee BECK or	Q	QUEBEC	
Key BECK			
R ROMEO ROW me oh	R	ROMEO	
S SIERRA see AIR rah	S		
T TANGO TANG go	T		
U UNIFORM YOU nee form	U	UNIFORM	
or OO nee form			
V VICTOR VIK tah	V	VICTOR	
W WHISKEY WISS key			
X X-RAY ECKS ray			FCKS ray
Y YANKEE YANG key			
Z ZULU ZOO loo			
1 WUN		2010	
2 TOO			
3 THUH-REE			
4 FO-WER			
5 FIYIV			
6 SIX			
7 SEVEN			
8 AIT	-		
9 NINER			
0 ZERO	_		
ZERO	U		ZERO



One of the first things you have to sort out before you let yourself loose on the bands is the priority of your requirements, for instance if you are going to be a real big gun DXer and chase everything on SSB and CW there is little future in obtaining a transceiver that is not equipped with an effective CW filter, the band activity today and the yearly increase is making the QRM worse every day.

If you just enjoy the local rag chewing and working your friend a few hundred miles away there is no need to invest a large amount of capital in a set up that would work the world at any time.

Let us assume that you have obtained your high frequency permit and after having an eyeball contact with a visiting overseas amateur radio operator (I detest the word Ham) you wish to contact him on the higher frequencies, all that is required to make a very enjoyable contact is to pick the correct time of operation, in other words when the skip (propagation) is at its peak or coming up to it and then as it changes you can move from band to band. A contact commenced at 0600 UT on 3.800 MHz can easily be continued on 14 MHz up till 1000 or 1200 UT depending on the time of year, seasonal changes and of course the area involved.

We will now move to the second type of operator, he has been an SWL for many years and has finally made the step into amateur radio and now wants to work all the rare DX in the world including

Africans, that he heard in his SWL days.

If he thinks for one moment he is going to work it all with a slip-shod dipole (there are plenty of these around) and odd operating hours he is going to be a very disappointed person in double quick time.

To keep up with the "Big Guns" or even make any ground with them you need everything going for you that you can get, a very efficient yagi or quad, a good tower preferably over 40 feet in height and up to 70 feet if local by-laws and your wallet will allow this. Yes, we know you will work some very excellent DX and even some very rare Africans on your dipole antenna at 25 feet, but this is more the exception than the rule and to be in the hunt at all times you must be prepared to set yourself up with the best station you can reasonably afford to either purchase or build.

After getting yourself organised with a new, used or home-brew transceiver the next step is to get the antenna. You can make up your own mind on the virtues of the quad versus yagi argument as this discussion on the merits of the two types of antennas could rage on for hours with no satisfactory conclusion being reached. I personally have tried my

antenna against the locals with their antennas and mine gave better results so I stayed with the type

that is being used at present.

Having decided to put up either a Yagi or a Quad you must then decide if you require a monoband or a tri-band beam. You can work the world very easily on 20 metres so a single band beam will do you well. However, if propagation on 20m to a rare DX station is out at the usual listening time, or perhaps he is not on then, you are done and have to wait till the next opportunity, BUT if you have a tri-band beam you get another shot at him on 15 metres or 10 metres when the opening occurs. So the message is coming through loud and clear. If you want to be a Big Gun DXer you must be versatile and operate on all the bands, so you need a tri-band beam.

Having established that you want your transceiver to be such and such a type with all the plug in or supplied extras and also decided that you will build or buy one type or another rotating antenna, you are now faced with what will I rotate it with? First start as we all do, the arm-strong method, then either build or buy a good rotator. Don't expect to pay about fifty bucks for a rotator and then hope to turn a four or six element yagi with it. Finally the tower; you can go for many types and they all have their good points including initial cost and maintenance.

The best type to build or have built is a fold over, so that you can work on your beam for maintenance or tuning. If you can make it crank-up at the same time so much the better for your peace of

mind in the storms.

Now you are all set. Real bang on transceiver or transmitter/receiver combination, four element rotatable beam and a 70 foot crank up, fold over tower, and you want to know when to work all this rare DX, especially the Africans. It's easy. Look, listen and check the propagation charts in your Breakin. You will soon get to know what beam heading to use, what band to use and also what time to give the directional call to Africa. One final tip. If you happen to be working another DX station and your beam is in the general direction of Africa, just give the odd pause between overs. Remember we are also rare DX of Africa and its amazing just how many times an African will call you while you are working an American or Canadian.

DXing is fun. Dxing can give you enjoyment. DXing can give you ulcers. DXing can cost you many hours of lost sleep. DXing requires many hours of patient listening and calling. DXing is rewarding.

Good Luck and Good DXing.

HONORARY LIFE MEMBERS

ZL3HA—Mr H. F. Arnold, 165 Knowles St., Christchurch. ZL2IQ—Mr R. Cassey, 92 Amritsar St., Khandallah, Wellington.

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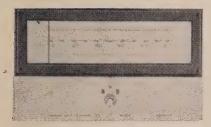
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1934	W. G. Collett	ZL4BP
1935	C. N. Edwards	ZL1AA
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1937	R. B. Dodds	ZL4FK
1938	L. G. Petrie	ZL20V

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1953-55	R. H. Hanley	ZL2GU
1955-58		ZL1VA
1958-60 1960-62	J. F. Freeman G. McB. Salt	ZL1VA ZL1CK
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S.L.16 DRIVE Cat. No. 5191 Drive ratio: 10:1. Pointer travels $4\frac{3}{8}$ ".

Printed in two colours. Escutcheon Aperture $6\frac{1}{4}$ " \times $1\frac{5}{8}$ ". Escutcheon overall dims. $7\frac{1}{4}$ " \times $2\frac{5}{8}$ ".

SINGLE STATOR CAPACITOR Type C604. Cat. No. 4268

For low power transmitters and receivers. Pos. T.C. 50 ppm/°C.

Part No. Capacity 10-367 pF 10-168 pF C.604 SE 40 SE style tested up to 750 VDC Si (low power C.604 SE 18 12-170 pF 8-58 pF C.604 SI 30 C.604 SI 16 transmitters) C.604 SI 10 6-38 pF

VDC. One hole fixing (spindle) or chassis mounting. Length behind plate 38%. Height (includes vanes) 28%. Spindle 4% x 15% Type C.603. Cat. No. 4630

tested up to 1500

Similar to C.604 above but with Split Stator, capacities as Type C.16.



BALL DRIVE DIAL Cat. No. 4489/C

Dial knob contains Jackson Ball Drive Unit with 6:1 ratio. Reversible dial. One side calibrated 0-100, other blank for individual requirements, with cursor. Fitted externally, thus saving space inside equipment. Dial 4" diameter.

MINIATURE AIR DIELECTRIC TRIMMER

Type C.1604. Cat. No. 5439 Similar to C.16, but with $\frac{1}{4}$ " x 40 TPI Bush and locking nut for spindle hold mounting. Shaft Diameter $\frac{5}{32}$ ". Pos. T.C. 50 ppm/°C. S.L.C. Law. Siliconed ceramic Insulation. Soldered and silver plated brass vanes. Berylium copper rotor spring. Same



6/36 DRIVE Cat. No. 4103/A

Drive ratios: 6:1 (coarse) and 36:1 (fine). One coaxial shaft. Calibrated scale: 0-100 plus room for individual calibrations. Will fit front panels up to \(\frac{3}{8} \) thickness, or more with longer screws. Front area $4\frac{5}{8}'' \times 3\frac{3}{4}''$.

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SMALL SHIPS RADIO-TELEPHONE SERVICE

TABLE OF FREQUENCIES

2182 kHz:

All ships licensed for operation in the authorised marine radiotelephone service frequency bands between 1605 kHz and 2850 kHz must be able to transmit and receive speech transmissions

on the frequency of 2182 kHz.

2182 kHz is the international radiotelephone distress frequency and distress, urgency and safety calls should be made on this frequency. It is also the general calling and reply frequency when establishing communication with other stations of the maritime service and for use by coast stations to announce the transmission on other frequencies of traffic lists. The exchange of traffic or other radio communications except distress, urgency or safety should be carried out on a working or intership frequency so as to leave 2182 kHz available for the reception of distress calls.

Stations, other than those in distress, should listen for a reasonable period before transmitting on 2182 kHz to make sure no distress traffic is

being sent.

2162 kHz or 2012 kHz

These frequencies are for use by ships wishing to send messages to Post Office coast stations or

Harbour Board stations after communication has been established on 2182 kHz. They may also be used by Harbour Board stations as a working frequency.

2068 kHz, 2456 kHz, 2638 kHz

For inter-ship working after communication has been established on 2182 kHz or 2045 kHz.

2480 kHz or 2444 kHz

For use at privately-operated coast stations and by ships for exchanging messages after communication has been established on 2045 kHz.

2153 kHz

Used by Wellington Radio as a working frequency.

2207 kHz

Used by Auckland, Awarua, and Chatham Islands Radio stations as a working frequency.

2045 kHz

For calling between ships and privately-operated coast stations. May also be used for calling other ships equipped with 2045 kHz.

2090 kHz or 2128 kHz

For communication with shore stations licensed to provide communication facilities for equatic sporting events. These frequencies are also used by land stations providing communications for sporting events. (2182 kHz also used by some marine rescue organisations.)

RADIO STATIONS

THE following harbour board and private coast radio stations are detailed in geographical sequence from the northernmost station in the North Island to the southernmost station in Stewart Island. In some cases, an area location has been

given rather than the exact locality to provide an easy reference for yachtsmen not familiar with the local scene.

Harbour board stations provide radio service for their own shipping and private radio stations give service to their mem-

bers. However, both harbour and private stations handle emergency calls in their areas. This list has been brought up to date for 1973 from amendments supplied by the Post Office.

HARBOUR BOARD STATIONS

STATION		FREQUENCY	WATCH HOURS
Opua	ZLUP	2182, 2162, 2012, 2045, 1675	As required
Marsden Point	ZLKW	2182, 2162, 2012, 2045, 1675	Continuous
Marsden Point	V.H.F.	Channels 12, 14, 16	Continuous
Auckland	ZLEA	1675, 2012, 2182	Continuous on 2182
Auckland	V.H.F.	Channels 9, 12, 14, 16	Continuous on Ch. 16
Manukau Heads	ZLEF	1675, 2012, 2162, 2182	0815-0830, 1815-1830, and on request on 2182
Onehunga	ZLEF2	2182, 2162, 2012, 1675	Irregular
Tauranga	ZLDQ	1675, 2012, 2162, 2182, 2045	15 mins. on the hour every two hours commencing at midnight
Tauranga	V.H.F.	Channels 16, 14, 12	Continuous when vessels working port
Raglan	ZLLA	2182, 2162, 2045, 2012	Irregular
Tokomaru Bay	ZLRA:	2182, 2162	Irregular
Tolaga Bay	ZLRB	2182, 2162	Irregular
Gisborne	ZLEC	2182, 2162, 2012, 1675, 2045	15 minutes 0800, 1130, 1330, 1600, Monday to Friday. Also one hour before cargo vessel is due
Gisborne	V.H.F.	Channels 16, 12 Channel 14 (working)	15 minutes 0800, 1130, 1330, 1600, Monday to Friday. Also one hour before cargo vessel is due

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Pictured is one of the four 400-foot towers supporting a Marconi Quadrant aerial. Supplied by AWA to the NZBC, these aerials, together with vision and sound transmitters and other associated equipment enable the transmission of black and white and colour TV. This is, however, only one sphere of the activities of AWA, which is involved in nearly all fields of electronics. AWA offers to the New Zealand public goods and services of the latest design and technology. The large stocks of

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New Plymouth		2182, 2162, 2045, 2012 , 1675	15 minutes every four hours commencing midnight
New Plymouth		Channels 16, 12	Continuous listening watch
Napier		2182, 2162, 2012, 2045	10 minutes every four hours on the hour.
Napier		Channel 16, 12, 19	10 minutes every four hours on the hour
		2182, 2162, 2012	Irregular
			at four-hourly intervals commencing 0350
		2182, 2012, 1675	Continuous — also Wn VHF channels 16, 14, 12
Beacon Hill		2182, 1675, 2012, 2128	Continuous — emergency only
Beacon Hill, Wgton		Channels 16, 14, 12	Continuous
		2182, 2162, 2012	Irregular
Picton		2182, 2162, 2012	0900-0933, 1140-1203, 1540-1603 Monday to Friday
Motueka Nelson		2182, 2162	0800-0815, 1600-1615 and by arrangement, Monday to Friday
Nelson	ZLED	2182, 2162	10 minutes every four hours commencing midnight
Westport	ZLAZ	Channels 16, 12	10 minutes every four hours commencing midnight
Westport	ZLAZ	2182, 2162, 2012, 2045	0000-0015, 0400-0415, 0730-0803, 1130-1145, 1300-1345, 1530-1600 , 2000-2015
Greymouth	ZLNC	2182, 2162, 2012	0750-0810, 1200-1210, 1600-1610, 1950-2010
		2045	Monday to Friday. Weekends by arrangement when vessel is
		2010	within 100 miles radius
Lyttelton	ZLHL	1675, 2182, 2162, 2012,	24-hour watch
		2045	
Lyttelton		Channels 12, 14, 16	24-hour watch
Timaru	ZLSD	2182, 2162, 2045	15 minutes every four hours commencing 0345-0400
Timaru		Channels, 16, 12	15 minutes every four hours commencing 0345-0400
	ZLRM	2182, 2162, 2012, 2045	By arrangement
Dunedin	ZLER	1675, 2182, 2162	Continuous on 1675
11		16, 14, 12	Continuous on 16
Taiaroa Heads	ZLES	1675, 2182, 2162, 2045,	Continuous on 1675, 2182
1414104 110446		2012	Continuous on 1073, 2162
Taiaroa Heads		Channels 12, 14, 16	Continuous on 16
Stirling Point	ZLRW	1675, 2012, 2182, 2045	From 30 to 40 minutes past the hour each hour
Stirling Point		16, 12	From 30 to 40 minutes past the hour each hour
			Continuous on 16

WATCH HOURS

FREQUENCY

(Note: Harbour Board stations may use 2045 kHz in emergency only)

PRIVATE COAST STATIONS

STATION

Parengarenga	ZLYP	2182, 2045, 2444	0800-0830, 1600-1630
Unahi	ZLNF	2182, 2162, 2012, 2045	0745-0800, 1545-1600, 1845-1900, on 2162, 0800-0815, 1600-1615,
		2444	1900-1915 on 2045
Whangaroa	ZLHG	2045, 2444,	1115-1130, 1315-1330, 1515-1530, 1715-1730
		2182 (emergency)	2220 2200, 2020 2000, 2020-200, 1720-1700
Urupukapuka Island	d ZLAX	2045, 2182	Irregular 1000-1700
Russell	ZLRC	2045, 2182, 2444	
Tutukaka	ZLDW	2045	Winter 0730-1730, Summer 0700-1900
Rawene			Daylight hours all year
	ZLLG	2045, 2182	0900-1700
Whakapirau	ZLTC	2182, 2045	0900-0930, 1200-1230, 1500-1530
Waipu	ZLSM	2045, 2182, 2444	0700-0730, 1245-1315, 1700-1800
Mangawhai	ZKYB	2182, 2045, 2444	1200-1215, 1900-1915 all weekends and holidays on 2444
		(2480 receiving)	
Te Kopuru	ZLCM	2045, 2182	0715-0745, 1215-1230, 1715-1730 weekdays, 0915-0930, 1215-1230,
			1715-1730 weekends
Leigh	ZKUV	2045, 2182, 2444	0900-0930, 1330-1530, 1630-1700 Monday to Friday
Great Barrier	ZLVR	2045, 2182, 2444	0900-0930, 1215-1230, 1700-1715, 2030-2100 on 2045
Port Albert	ZKUO	2045, 2182, 2444	0900-0930, 1200-1230, and other times on request
Kawau Island	ZLSU	2045, 2182, 2444	0900-1800
Port Charles	ZLNQ	2045, 2182, 2444	
			0745-0800, 1233-1245, 1915-1930, 1945-2015, 2145-2200
	Weather reports		essages per telephone Post Office (collect)

Pont Island	STATION		FREQUENCY	WATCH HOURS
Roto Ros Island	Ponui Island	711P	2045 2102	face and a se
Whitianga				
Tairua				
Tairus ZIVM 2045, 2182, 2444 Whinagamata ZLRF 2055, 2182, 2444 Motiti Island ZLSF 2055, 2182, 2444 Motiti Island ZLSF 2055, 2182, 2444 Mayor Island ZLNO 2055, 2182, 2444 Mayor Island ZLNO 2055, 2182, 2444 Mayor Island ZLNO 2055, 2182, 2444 Maketu ZLUK 2055, 2182, 2444 Maketu ZLO 2055, 2182, 2444 Maketu ZLO 2055, 2182, 2444 Maketu ZLO 2055, 2182, 2444 Maketu ZLUK 2055, 2182, 2444 Maketu ZLO 2055, 2182, 2444 Maketu ZL				1245,-1300, 1645-1700
Whengamata				0833-0845, 1103-1115, 1403-1415, 1703-1715
Motification	Whangamata			
Tauranga				
Mayor Island ZLNO 2045, 2182 2444 0845-900, 1140-1200, 1700-1765 1809-1900 0845-900, 1140-1200, 1700-1765 1809-1900 0845-900, 1140-1200, 1700-1765 0845-900, 1140-1200, 1700-176	mark the same of t			On request, Telephone — exchange Motiti Island
Maketu	Mayor Island			
Maketu ZUK 2045, 2182 0045, 2000, 1140-1200, 17-30-1745 Opotiki ZLO 2012, 2182 0735-0745, 1240-1300, 1545-1600, 1805-1810 Rotolit ZLOA 2012, 2182 0800, 6900, 1500, 1500, 1800, 2180, 2180 Kawhia ZLLL 2045, 2182 187, 2000, 1245-1300, 1345-1600, and as requested Rotorua ZLVK 2045, 2182 2045, 2182 By appointment. Phone 84-669 Rotorua Cisborne ZLDL 2182, 2045, 2444 070-0715, 1500, 1245-1300, 1345-1600, and as requested Lake Waikaremonan ZLRU 2045, 2182 2444 070-0715, 156-100, and as requested Taupo ZLHD 2045, 2182 2045 2182 October 1- Juna 30 0835-0853, 1235-1255, 1633-1655, 1835-1855 Mahia ZLAU 2045, 2182 2444 October 1- Juna 30 0835-0853, 1235-1255, 1633-1655, 1835-1855 Napier ZLHD 2045, 2182, 2444 Weekdays on request Sundays 0900-0815, 1000-1015, 1400-1415, 1600-1615, 2000-2015 Napier ZLHD 2045, 2182, 2444 Weekdays on request Sundays 0900-0815, 1000-1015, 1400-1415, 1600-1615, 2000-2015 Napier ZLK 2045, 2182, 2444 Week				
Depotik	Maketu			
Rotoliti	Opotiki			
Rotolit	East Cape			
Mawhia ZILL 2045, 2182, 2444 0945-1000, 1245-1300, 1345-1600, and 135 requested Rotorua ZIVK 2045, 2182 By appointment. Phone 84-698 Rotorua 2105 2182, 2045, 2444 0700-0715, 1230-1245, 1355-1600, and 135 requested 1730-1745 2045, 2182, 2045, 2182 205				
Rotorua ZLVK 2015, 2182 2045, 2184 2182, 2045, 2184 2182, 2045, 2184 2045, 2182, 2444 2045, 2182 2045, 2	Kawhia			one of the state o
Care	Rotorua			0940-1000, 1245-1300, 1545-1600, and as requested
Care	Gisborne			By appointment, Phone 84-069 Rotorua
Taupo		~ LDL-		0700-0715, 1230-1245, 1545-1600 (only if requested), 1730-1745
Taupo	Lake Waikaremoana	ZKHE		0017 0007 1747 1707 1111
Mahia ZLAU 2045, 2182 2044 2045, 2182 2044 2045, 2182 2044 2045, 2182 2044 2045, 2182 2045 2045, 2182 2044 2045, 2182 2045 2045, 2182 2044 2045, 2182 2045, 2182 2044 2045, 2182 2045, 2182 2044 2045, 2182 2045, 2182 2044 2045, 2182 2045, 2182 2044 2045, 2182 2045, 21				0915-0925, 1/15-1/25. Midday call by arrangement
New Plymouth		district 1 fee	2045, 2162	October 1 - June 30 0835-0855, 1235-1255, 1635-1655, 1835-1855
Napier ZLHP 2045, 2182, 2444 Weekdays on request. Sundays: 0800-0815, 1000-1015, 1400-1415, 1600-1615, 2000-2015 Napier ZLHD 2045, 2182, 2444 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1500 forecast given	Mahia	71 411	2045 2192	July 1 - September 30 1235-1255. Other calls by arrangement
Napier ZLHD 2045, 2182, 2444 Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Portland Island ZMT 2012, 2182 On 100, 0900, 0915, 1155, 1455, 1810 Patea ZLKX 2045, 2182, 2444 As required Control of the Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1300 On 10, 0900, 0915, 1155, 1455, 1810 Irregular As required Control of the Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1300 On 10, 0900, 0915, 1155, 1455, 1810 Irregular As required Control of the Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1300 On 10, 0900, 0915, 1155, 1455, 1810 Irregular As required Control of the Monday to Saturday 0730, 1300, 1300, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1300 On 10, 0900, 0915, 1155, 1455, 1810 Irregular As required Control of the Monday to Saturday 0730, 1300, 1800. Sundays 0900, 1300, 1800. Weather forecast given daily at 1300 On 10, 0900, 0915, 1155, 1455, 1810 Irregular Control of the Monday to Saturday 0730, 1300, 1315, 1810-1825 Westport ZKIO 2045, 2182 20444 0830, 1800 Westport ZKIO 2045, 2444 2182 1800, 1300	New Plymouth			
Portland Island		ZLNF	2045, 2182, 2444	Weekdays on request. Sundays: 0800-0815, 1000-1015, 1400-1415, 1600-1615, 2000-2015
Portland Island	Napier	ZLHD	2045, 2182, 2444	Monday to Saturday 0730, 1300, 1800, Sundays 0900, 1300, 1800
Colifon Beach	Portland Island	7MT	2012 2102	weather forecast given daily at 1300
Patea ZLKX 2045, 2182, 2444 As required As required				0610, 0900, 0915, 1155, 1455, 1810
Wanganui				
Riversdale (Masterton)				
Plimmerton				
D'Urville Island				
Havelock ZLLU 2045, 2182, 2444 0805, 1205, 1633, 2035, for 20 minutes (*Fridays 1533)				5 minutes after even hours weekends or special arrangement
Nelson				0915-0930, 1215, 1500-1515
Nelson				0805, 1205, 1633*, 2035, for 20 minutes (*Fridays 1533)
Mariborough Sounds ZLEM 2045 11regular 1800-1801 1800-				0900-0915, 1300-1315, 1810-1825
Picton				
Westport ZLLC 2045, 2182 0800-1800 Westport ZKIO 2045, 2484 2182 0800-1700 Monday to Friday. 1000-1015, 1500-1515 weekends and by arrangement. Only operates while fishing fleet is out 1500-1515 weekdays, 1200-1215 weekends and by arrangement 0930, 1130, 1430, 1630 weekdays. Weekends by appointment. 1630-2200 by appointment Kaikoura ZLHR 2045, 2484 1500-1515 weekdays, 1200-1215 weekends and by arrangement 0930, 1130, 1430, 1630 weekdays. Weekends by appointment. 1630-2200 by appointment Greymouth ZLHJ 2045, 2182 O715, 0900, 1230, 1500, 1845 Motunau Beach ZLDP 2045, 2182, 2444 By arrangement Lyttelton ZLHH 2045, 2182 Not known Lyttelton ZLBW 2182, 2045, 2188 By arrangement. Phone Christchurch 888-454. Akaroa ZLNG 2045, 2182 0800-0815, 1215-1230, 1700-1715 Waiatoto ZLNK 2045, 2182 0800-0815, 1215-1230, 1700-1715 Wanaka ZLKC 2045 2182 0900, 1230, 1945 for 15 minutes Oamaru ZLHN 2045, 2182, 2444 0800-2100 Oamaru ZLHN 2045, 2182, 2444 0700-1800, with call				
Westport ZKIO 2045, 2444, 2182 2182 and by arrangement. Only operates while fishing fleet is out 1500-1515 weekends and by arrangement. Only operates while fishing fleet is out 1500-1515 weekends, 1200-1215 weekends and by arrangement. 1630-2200 by appointment. 1630-2200 by appoint				
Kaikoura ZLNR 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2444 2045, 2482 20715, 0900, 1230, 1500, 1845 Motunau Beach ZLDP 2045, 2182 2045, 2182 Not known Lyttelton ZLHH 2045, 2182 2045, 2182 2045, 2182 20800-0815, 1215-1230, 1700-1715 Waiatoto ZLNK 2045, 2182, 2444 2045, 2182 20800-2100 Jacksons Bay ZLJA ZLHI 2045, 2182, 2444 ZLKC 2045 ZLKC 2045 Irregular Wanaka ZLKC 2045 ZLKC 2045 Irregular Milford Sound ZLHN 2045, 2182, 2444 ZLKC 2045 Irregular Milford Sound ZLHN 2045, 2182, 2444 ZLKC 2045 Irregular Milford Sound ZLHN 2045, 2182, 2444 2045, 2182, 2444 Py arrangement Poon-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 Moeraki ZLEK 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRJ 4070 Te Anau ZLRJ 4070 Port Chalmers ZLHF 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRY 2045, 2182, 2444 December-March: 0800-2000 Port Chalmers ZLHF 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Te Anau ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Taleri Mouth ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Taleri Mouth ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Taleri Mouth ZLRY 2045, 2182, 2444 December-March: 0800-2000 April-November: 0900-1700 Taleri Mouth ZLRY 2045, 2182, 2444 December-March: 0800-2000 December-March: 0800-2000 December-March: 0800-2000 December-March: 0800-2000	rrootport	ZLLC	2040, 2182	0800-1700 Monday to Friday, 1000-1015, 1500-1515 weekends
An auxiliary station operates Monday to Saturday same frequency	The state of the s	ZKIO	2045, 2444, 2182	1500-1515 weekdays 1200-1215 weekends and by arrespond
An auxiliary station operates Monday to Saturday same frequency	Kaikoura	ZLNR	2045, 2444	0930, 1130 1430 1630 Weekdays Wookenda by arrangement
Creymouth				1b30-2200 by appointment
Motunau Beach ZLDP 2045, 2182 0715, 0900, 1230, 1500, 1845 My arrangement Not known By arrangement. Phone Christchurch 888-454. Akaroa ZLNG 2045, 2182 0800-0815, 1215-1230, 1700-1715 Waiatoto ZLNK 2045, 2182, 2444 1rregular Wanaka ZLKC 2045 1rregular Milford Sound ZLUN 2045, 2182 On request Oamaru ZLHN 2045, 2182, 2444 0700-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLYU 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden December-March: 0800-2000, April-November: 0900-1700 Te Anau ZLRJ 4070 December-March: 0800-2000, April-November: 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-1700 Te Anau ZLCE 2045, 2182, 2444 1200-1300, and on request Waikawa ZLCN 2045, 2182, 2444 1200-1300, and on request Waikawa ZLCN 2045, 2182, 2444 0740, 0910, 1200, 1500, 1800. Listening watches at 1940 and		An a	auxiliary station operates Mo	onday to Saturday same frequency
Motunau Beach ZLDP 2045, 2182, 2444 By arrangement Lyttelton ZLHH 2045, 2182 Not known Lyttelton ZLBW 2182, 2045, 2128 By arrangement. Phone Christchurch 888-454. Akaroa ZLNG 2045, 2182 0800-0815, 1215-1230, 1700-1715 Waiatoto ZLNK 2045, 2182 0900, 1230, 1945 for 15 minutes Timaru ZLHI 2045, 2182, 2444 10800-2100 Jacksons Bay ZLJA 2045, 2182, 2444 Irregular Wanaka ZLKC 2045 182 On request Oamaru ZLHN 2045, 2182, 2444 0700-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 Dy arrangement phone J. McLellan, 72J Hampden Queenstown ZLYU 2045, 2182, 2444 9915, 1215, 1733. Continuous when boats are on lake December-March: 0800-2000. April-November: 0900-1700 December-March: 0800-2000. April-November: 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-1930, 1230-1300, 1930-2000 Port Chalmers ZLHF 2045, 2182, 2444 1200-1300, and on request<		ZLHJ	2045, 2182	0715, 0900, 1230, 1500, 1845
Lyttelton ZLHH 2045, 2182 Not known Lyttelton ZLBW 2182, 2045, 2128 By arrangement. Phone Christchurch 888-454. Akaroa ZLNG 2045, 2182 0800-0815, 1215-1230, 1700-1715 Waiatoto ZLNK 2045, 2182 0900, 1230, 1945 for 15 minutes Timaru ZLHI 2045, 2182, 2444 0800-2100 Jacksons Bay ZLJA 2045, 2182, 2444 Irregular Wanaka ZLKC 2045 Irregular Milford Sound ZLUN 2045, 2182 On request Oamaru ZLHN 2045, 2182, 2444 O700-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLYU 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLRJ 4070 December-March: 0800-2000. April-November: 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-0930, 1230-1300, 1930-2000 Port Chalmers ZLHF 2045, 2182, 2444 0900-1700 Taieri Mouth		ZLDP		
Akaroa ZLNG 2045, 2128 By arrangement. Phone Christchurch 888-454. 0800-0815, 1215-1230, 1700-1715 0900, 1230, 1945 for 15 minutes				
Akardo ZLNG 2045, 2182 0800-0815, 1215-1230, 1700-1715 Waiatoto ZLNK 2045, 2182 0900, 1230, 1945 for 15 minutes Timaru ZLHI 2045, 2182, 2444 0800-2100 Jacksons Bay ZLJA 2045, 2182, 2444 Irregular Wanaka ZLKC 2045 Irregular Milford Sound ZLUN 2045, 2182 On request Oamaru ZLHN 2045, 2182, 2444 0700-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLYU 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLRJ 4070 December-March: 0800-2000. April-November: 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-0930, 1230-1300, 1930-2000 Port Chalmers ZLHF 2045, 2182, 2444 0900-1700 Taieri Mouth ZLRY 2045, 2182, 2444 1200-1300, and on request Waikawa ZLCN 2045, 2182, 2444 0730-0930, 1200-1330, 1945-2130 Stewar			2182, 2045, 2128	By arrangement, Phone Christchurch 888-454
Walatoto ZLNK 2045, 2182 0900, 1230, 1945 for 15 minutes Timaru ZLHI 2045, 2182, 2444 0800-2100 Jacksons Bay ZLJA 2045, 2182, 2444 Irregular Wanaka ZLKC 2045 Irregular Milford Sound ZLUN 2045, 2182 On request Oamaru ZLHN 2045, 2182, 2444 0700-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLYU 2045, 2182, 2444 0915, 1215, 1733. Continuous when boats are on lake Te Anau ZLRJ 4070 December-March: 0800-2000, April-November: 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-0930, 1230-1300, 1930-2000 Port Chalmers ZLHF 2045, 2182, 2444 0900-1700 Taieri Mouth ZLRY 2045, 2182, 2444 1200-1300, and on request Waikawa ZLCN 2045, 2182, 2444 0740, 0910, 1200, 1300, 1800. Listening watches at 1940 and Stewart Island ZLRY 2045, 2182, 2444 0740, 0910, 1200, 1500, 1800.		ZLNG	2045, 2182	0800-0815, 1215-1230, 1700-1715
Timaru		ZLNK	2045, 2182	
Jacksons Bay ZLJA 2045, 2182, 2444 Irregular Wanaka ZLKC 2045 Irregular Milford Sound ZLUN 2045, 2182 On request Oamaru ZLHN 2045, 2182, 2444 0700-1800, with call standby 0830, 1230, 1730 Moeraki ZLEK 2045, 2182, 2444 By arrangement phone J. McLellan, 72J Hampden Queenstown ZLYU 2045, 2182, 2444 9915, 1215, 1733. Continuous when boats are on lake Te Anau ZLRJ 4070 December-March: 0800-2000. April-November: 0900-1700 Te Anau ZLCE 2045, 2182, 2444 0900-0930, 1230-1300, 1930-2000 Port Chalmers ZLHF 2045, 2182, 2444 0900-1700 Taieri Mouth ZLRY 2045, 2182, 2444 1200-1300, and on request Waikawa ZLCN 2045, 2182, 2444 0730-0930, 1200-1330, 1945-2130 Stewart Island ZLRZ 2045, 2182, 2444 0740, 0910, 1200, 1500, 1800. Listening watches at 1940 and				
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2110 only if requested by small craft at 1800	Stewart Island	ZLRZ.	2045, 2182, 2444	
(Note: Private coast stations mouses 2102 LUL :		/61	oto. Private asset - Lut	2110 only if requested by small craft at 1800

(Note: Private coast stations may use 2182 kHz in emergency only)

METEOROLOGICAL WARNINGS

Meteorological warnings are broadcast on receipt and after the next silence period following receipt, i.e.:

			Minut	es
	Fr	equency	y after th	he
		(kHz)	hour	
Awarua Radio	(ZLB)	2207	3 or	33
Wellington Radio	(ZLW)	2153	6 or	36
Auckland Radio	(ZLD)	2207	9 or	39
Chatham Islands R	adio (ZLC)		12 or	42
and as shown in				
They are also rep	eated by Av	varua I	Radio (2	ZLB),
Wellington Radio	(ZLW), Ch	atham	Islands	Radio
(ZLC) and Auck	land Radio	(ZLD)	, at the	next
schedule time for	broadcasting	g navig	ational	warn-
ings following rece				

CITIZEN BAND

FREQUENCIES

Frequencies for general use:

26.425 MHz

26.450 MHz

26.450 MHz

26.475 MHz

26.575 MHz

26.500 MHz

Note: Only type-approved equipment may be used. A licence is required for each set.

ZKY Schedule

TEMPORARY TRANSMISSIONS

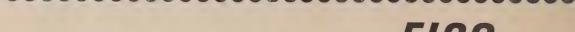
1. The evening hours of transmissions of the morse training broadcast transmitted by this Base (ZKY) on 3236/6885 kHz will be temporarily changed as from the 16th April to the 3rd August 1973. Amended broadcast times as follows.

Mon - Thur 0900 - 1015 1715 - 1800 Fri 0900 - 1015

Amended times will be broadcast on daily schedules from 2nd - 16th April.

2. The morse tests which are transmitted on the first Tuesday of every second month (next test 3rd April) will remain as follows:—

1900 - 1905 15 w.p.m. Plain Language 1905 - 1910 20 w.p.m. Plain Language 1910 - 1915 25 w.p.m. Plain Language 1915 - 1920 30 w.p.m. Plain Language





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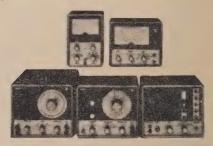
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TIME

For more than a century a Time Service has been operating in New Zealand. The Colonial Time Service was founded in 1869, and before this, a service was provided by the Wellington Provincial Government.

The Colonial Time Service Observatory was built on a site in the Bolton Street Cemetery, where the Richard Seddon memorial now stands. In 1907 the Service was transferred to the Hector Observatory, which had been newly built above a redundant harbour defence fort at Kelburn and it is from here that the Service operates today. The Observatory was renamed the Dominion Observatory in 1925 and became part of the Department of Scientific and Industrial Research in 1926.

Situated in the gardens 100 yards from the upper terminal of the Kelburn Cable Car, the Observatory overlooks Wellington City and harbour. The building has been progressively extended and modified, but the original styling has been preserved. Below ground are signs left by its first ocupants. Basement rooms containing modern technical equipment still have the original doors, marked "Cartridge Room" and "Shell Store".

Before the nearby Carter Observatory was established in 1938, and for some years after, the Dominion Observatory conducted visual sunspot and auroral observations, double-star measurements, the timing of occultations, planetary and cometary work and positional measurements of Eros.

Although no astronomical measurements are being made at present, the Service is equipped with a Danjon astrolabe and has participated in a revision

of the placings of some southern stars.

New Zealand Time was first passed visually to ships in Wellington Harbour. By day, the signals were sent by means of a time-ball mounted on the Wellington Custom-house and arranged so as to fall at a given time. During the night, in place of this method of signalling, a prominently displayed light was extinguished. For the general public a cannon was fired daily at noon.

With the electric telegraph network rapidly expanding, it became possible to pass time-signals through Post Office and Railway telegraph channels and use these signals to operate time-balls and signals

nal lights in other parts of New Zealand. By 1918, regular Observatory time-signals were being received by 2400 telegraphic stations throughout the country.

Visual time signalling has been discontinued in New Zealand, but citizens of Sydney can still check their time from the dropping of the time-ball on the Sydney Observatory at 1 p.m. Here in New Zealand, the Lyttelton Maritime Association has set itself the task of restoring and once more putting into operation, the historic Time-Ball Station at Lyttelton.

Once wireless became established, the Observatory was able to compare our local time with that of other countries and to arrange for the transmission of signals by Post Office Coast Radio Stations. In 1916 a time-signal was successfully sent to the Antarctic exploration ship "Aurora" from the Awarua Radio Station, and in June of the same year a time-signal was sent from the Awanui Radio Station to Tahiti. This signal, accurate to 1/20 second, was used to determine, with greater accuracy than previously, the geographical position of Tahiti.

By 1919, almost every steamer, when approaching New Zealand, was requesting radio time-signals and, although a regular service was not in being, many transmissions had been made by the Post Office Stations at Awanui on a wavelength of 2000

metres, and at Wellington on 600 metres.

In December 1919, application was made by the shipping companies for a regular transmission of time-signals. A line was installed between the Observatory and Wellington Radio and the regular transmission of time-signals commenced on 18 June, 1920. By 1922 these signals, transmitted by the powerful Telefunken quenched-spark apparatus of Wellington Radio on Mt. Etako, were being received at distances of up to 4000 miles.

For the general public, radio time-signals were first broadcast from station 2YA Wellington in 1930, and on 1 June 1938 the now familiar form of British "six-pip" time-signals was introduced.

Today, the Time Service continues to determine and distribute time for civil, departmental, and scientific purposes, such as the provision of time-signals for the operation of the New Zealand Seismographic Network.

The Standard Clocks

Originally, time was kept by high-quality mechanical clocks which were regulated by adjusting small weights on the pendulums. Correct time was derived from observations of stars and, when visibility prevented this, the weight changes were calculated from measurements of temperature and pressure. These clocks. now over 100 years old, are still in operation and can be kept within an accuracy of 1/20 second. Accuracy was later improved by the installation of vacuum-enclosed pendulums kept at a constant temperature.

The introduction of the quartz crystal oscillator further increased accuracy, and advances in the field of electronics paved the way for a modern New Zealand built timing-system which was put into operation in 1962. This system, with subsequent improvement, is in current use. A replacement time-signal transmitter, embodying recently developed circuitry, is being assembled at the Observatory.

A temperature-controlled room in the basement of the Observatory contains three quartz-oscillator crystals, carefully protected from external shocks, and each generating 100,000 electrical vibrations a second. Additional quartz-oscillator units with stabilities exceeding one part in ten thousand million have recently been istalled. Only one controls the Time Service; the others are needed to check the behaviour of the first and to provide standbys.

The high-frequency virbrations from the control oscillator are processed electronically to provide 1000 pulses each second, and these are fed to a transmitter that counts and groups them to produce hundredths of seconds, tenths, seconds, minutes and hours. The apparatus is triplicated and interconnected, so that an error of one millisecond or more in any one "clock" will raise an alarm and switch to an alternative electronic system. Should all electronics fail, pendulum clocks function as a last reserve. Time-signals, call-signs and morse-signals are

all generated electronically and automatically sent

at programmed times to their several destinations.

Time-Signals

The most widely used time-signals are those broadcast by the New Zealand Broadcasting Corporation. They are accurate to within a few thousandths of a second, which is the time taken by the radio waves to reach their points of reception. These signals are transmitted some 20 times throughout the day and consist of six "pips" at one second intervals, the beginning of the last pip marking the exact minute. When a pip marks the hour, its length is doubled.

The signals are received at each of the 30 stations of the seismograph network and are automatically impressed on the records. For navigational and scientific purposes a 5-minute transmission of pipseach-second, with a long pip at each minute, is broadcast by Wellington Radio, the Post Office Coast Station, on a frequency of 417 kilohertz. These signals terminate at exactly 11 a.m. (23 hours, Greenwich) and are transmitted with the Time Service Callsign, ZMO.

Post Offices, the Railways, the New Zealand Broadcasting Corporation, the Carter Observatory, Wellington Radio, and the Meteorological Office, receive time-signals by landline. Wellington's government clock on the large wooden Government Building in Lambton Quay is wired to the Observatory and kept within ten seconds of true time. The Wellington wharf siren is operated upon the receipt of a signal from the system.

A cathode ray oscilloscope serves to compare all manner of time-signals which electronic counters measure to 1/1000 second. Regular measurements are taken of the behaviour of the Time Service quartz oscillators and those of the Post Office, which are located at Makara and wired through to the Observatory. Signals from Rugby, England, are combined with locally produced signals and any difference is displayed on a continuously recording chart. Signals received from America, Australia, Hawaii, Japan and elsewhere are regularly measured to a millisecond, and New Zealand time compared with them.

Stations and Frequencies (kilohertz)

1 a.m. - 5 a.m. times-signals:—

1YA 2YA 3YA 4YA 4YW 760 570 690 780 640

Every second week, stations 1YA and 3YA are silent from 11.15 p.m. Sunday until 6 a.m. Monday. On the alternate weeks, 2YA, 4YA and 4YW are silent

6 a.m. - 11 p.m. time-signals:—

1YA 1YW 1YZ 1YX 1YE 1YK 760 1140 860 830 1050 1010 2YA 2YW 2YZ 2YX 570 1180 630 1150

3YA 3YW 3YZ 690 1460 920 4YA 4YW* 4YZ

4YA 4YW* 4YZ 780 640 720 2YB (during parlia)

2YB (during parliamentary broadcasts) 800

On Saturday afternoons, during the winter-sports broadcasts, stations outside Wellington may not be able to transmit the 2 p.m. and 4 p.m. time-signals. * 4YW: — Time transmissions from 4YW are

limited to:—
Weekdays 9 a.m. to 2 p.m.
Saturdays 9 a.m. to 12 noon
Sundays 11 a.m. to 12 noon

Radio New Zealand

The transmission hours of the Radio New Zealand short-wave station are from 5 a.m. to 11.40 p.m., and the time-signals transmitted are identical to those of the National Programme, with the exception of the 10 p.m. signals which are always clear of programme.

Additional Transmissions

When required for specific purposes, timesignals other than those listed are sometimes broadcast. This has been done to help in the accurate timing of astronomical observations, such as eclipses, occultation, and transits of planets, and also to provide additional timing during the recording of aftershock sequences following major earthquakes.

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Standard Time

The time shown by the Observatory clocks is "Universal Time" or "Greenwich Mean Time". Ordinary New Zealand civil time is exactly 12 hours

ahead of it, but this was not always so.

Each place in New Zealand once kept its own time, and these differed by as much as 34 minutes. Improvements in communications—notably the electric telegraph — made these differences inconvenient, so in 1868 the Government passed a Mean Time Act which established a standard time meridean for the colony. This gave us a time of 11 hours and 30 minutes ahead of Greenwich Mean Time, and known as New Zealand Mean Time. It was used until 1927 when the clocks were advanced one hour for the summer period. This daylight-saving measure was not well received, so in the following year the advance was reduced to half an hour. After the advance in 1941 the clocks were not put back for the winter. Since this was equivalent to adopting a new standard time meridean, the position was regularised by the New Zealand Standard Time Act of 1945. Summer time is not observed, but the New Zealand Standard Time we now use incorporates half an hour of "built-in" daylight-saving all the year round.

International Date Line

The International Date Line is a modification of the 180th meridian, which passes some 100 miles to the east of Gisborne. It is drawn so as to avoid land, and to include associated Pacific Island groups on the same side of the line.

When this line is crossed on a westerly course, the date must be advanced one day, and when it is crossed on an easterly course the date must be put

back one day.

Leap Year and Leap Seconds

Days depend on the spinning of the earth, and years on its movement about the Sun. Seconds, in their turn, depend on counting atomic vibrations. These things do not always keep in step, and so from time to time "leap years" and "leap seconds" are used to make the adjustment.

Leap years contain an extra day. February 29. which is inserted whenever the year can be divided by four, except at the change of a century, when the year must be divisible by 400. The year 2000 AD

will therefore be a leap year.

There is no regular rule about leap seconds. They are introduced on December 31 or June 30, if astronomers' measurements show that they are necessarv.

Units of Time

Some of our units of time are natural, and some are artificial. The second, for example, is the time taken for a caesium atom to vibrate 9.192,631.770 times, the year is the time for the Earth to go round the Sun, the day, the time for the Earth to spin once, and the month, for the Moon to circle the Earth.

The hour, the minute, and the week, on the

other hand, are artificial units formed by counting up natural ones.

Administration

The New Zealand Time Service forms part of the Geophysics Division of the New Zealand Department of Scientific and Industrial Research. Enquiries should be addressed to:-

The Officer-in-Charge, New Zealand Time Service, Geophysics Division, D.S.I.R., P.O. Box 8005,

WELLINGTON.

Note: The Observatory's function is scientific and there is no public time-answering service; the broadcast time-pips provide the main public facility.

Times Around the World

A list of standard times is given on the following pages. The hours are given as "hours behind

New Zealand", unless shown otherwise.

Note: New Zealand is planning the introduction of daylight saving. If and when New Zealand clocks are put forward from Standard Time, the amount of advance would be added to the times here listed as "Hours behind New Zealand".

Summer Time

The annotation * indicates that the time of a territory may advance by one hour during its sum-

Winter Time

The annotation *** indicates that the time of a territory may advance during its winter.

Local Differences

The annotation (X) indicates that the time shown does not apply to all parts of the territory.

When more than one time is listed for an area, a fair estimate as to how the times are zoned may be made from a study of its map.

Telecontrol Apparatus

The following frequencies are available for the operation of telecontrol apparatus. Transmissions on these frequencies must be maintained within the tolerances specified.

Freque	ency	Tolerance					
13560	kH/z	士	0.0	5%			
27120	kH/z	±	0.6	%			
35.7	mH/z	土	0.7	5%			
2450	mH/z	土	50	MHz			
5800	mH/z	±	75	MHz			
22125	mH/z	士	12	5 MHz			



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Country or State			Hours New Z	Behind lealand	Country or State Hours Behind New Zealand
Aden (Southern Yemen)	******			9	22
Admiralty Islands	******		4****	2 7 <u>1</u>	Canton Island 23 Cape Verde Islands 14
Afghanistan Albania *	******			112	CAROLINE ISLANDS
Aleutian Islands	*****		*****	23	east of 160° 0
Algeria		******	******	12	west of 160° 2
Alor				4 8	Truk, Ponape 1
Amirante Island		******		7	
Andaman Islands		******		61/2	Central Africa Republic 11
Anglo Egyptian Sudan		,		10	Ceylon (Sri Lanka) 6½
Anglo Egyptian Sudan Angola (Portuguese West Afr	ica)	*****		11	Chad
Annobon Island Antilles	******	*****	*****	11 16	Channel Islands * 12
Antilles			******	8	Chatham Islands (ahead of New Zealand)
Argentina				15	Chile * 16
Aru Island				3	Christmas Island (Pacific Ocean) 4
Aruba	******		*****	16 12	Christmas Island (Pacific Ocean) 22 Christmas Island (Indian Ocean) 5
Ascension Island AUSTRALIA:	******	******	******	12	Clipperton Island 19
Australian Capital Territo	ory *	*****		2	Cocos-Keeling 5½
Broken Hill *				2½	Colombia 17
New South Wales * (ex				2° 2½	Comoro Islands 9 Congo (Brazzaville) 11
	******			22	Congo (Brazzaville) 221
South Australia *	******			21/2	Corsica 11
Tasmania *	******			2	Costa Rica 18
Victoria *	******		*****	2	Crete 10
Western Australia	******		*****	4 22	Crozet Islands 7 Cuba * 17
Austria	*****		******	11	Curacao 16
Azores			******	13	Cyprus 10
Bahamas *				17	Cyrenacia 10
Bahrein	******			9	Czechoslovakia 11 Dahomey Republic (West Africa) 11
Balearic Islands Bali	******		******	5	
Ball	*******	******		5	Dominican Republic *** (* hour) 17
Bangladesh	*****		******	6	Dutch Guiana (Suriname) 102
Barbados	******			16	
		******		10 10	Ecuador 17
Belgium	*****	******		11	Egypt * 10
Belitong			*****	5	Ellice Islands 0
Bermuda		******		16	El Salvador 18
Bolivia	******			16	
Borneo, Indonesian Bonaire	****** *****			16	Ethionia
Botswana (Bechuanaland)	******			10	Falkland Islands (Port Stanley *)
Brazzaville			mine miin	11	Fanning Island
Brazil * BRAZIL *					Faeroes, The Fernando de Noronha
Eastern	******	******		15	Fernando Poo 11
Territory of Acre	******	******		17	Fiji
Western		******	******	16	Finland 10
British Antarctic Territory (X) British Guiana	******	*****	*******	15 20	Formosa * (Tai-wan *) 4 France 11
British Honduras *** (½ hour)	******	*******		18	Franz Josef Land 7
British New Guinea	******	*****	anne med	. 2	French Afars and Issas
British North Borneo	******	*****	******	4 9	French Guiana 15 Friendly Islands (Tonga) (ahead of New Zealand) 1
British Somaliland Brunei		******		4	Friendly Islands (Tonga) (ahead of New Zealand) 1 Gabon 11
Brunei Bulgaria	******	******		10	Galapagos Islands 17
Burma				51/2	Gambia 12
Burundi	******	******	*****	10	Gambier Islands 21
Caicos Island	*****	*****		17 5	Germany 11
Campodia	******	******		11	Gibraltar *
Campbell Island	*****	*****	*****	0	Gilbert and Ellice Islands 0
CANADA:				10	Gough Island
Alberta * British Columbia *	******	******	*****	19 20	Graham Land 15 Great Britain 12
La francisco de	******	******	******	16	
	******			18	Greenland:
New Brunswick *				16	
	******			, 15½	Scoresby Sound 14 Angmagssalik and West Coast 15
Northwest Territories *				16	Thule area 16
east of long. 68 long. 68-85 long. 85-102		******		17	Greenwich Mean Time 12
long. 85-102		******		18	
west of long. 102		*****		19	Guadeloupe 16
Nova Scotia *	******	******	in	16	Guam 2 Guatamala 18
Ontario * east of long. 90		******	4*****	17	Cuiona Dutch 15t
west of long. 90	******	******		18	French 16
Prince Edward Island *		******	******	16	Guinea, Republic of 12
Quebec *				16	Gwadar
east of long. 63 west of long. 63	******	*****		17	Haiti 17
Saskatchewan *	******				Holland
east of long. 106	*****	******	.,	18	Honduras 18
west of long. 106		.***** .	*******	19	Tionada British
Yukon east of long, 138	******	******	4+++1	20	Hungary 11
west of long. 138	*****			21	Iceland 12
Canary Islands		*****		12	Ifni 12



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2 metre FM transceiver. Compact unit for operation on either 12 volts DC or 230 volts mains, fully self contained. 23 channels plus provision for accessory VFO. Frequency coverage 144 to 148 MHz.

Power output 1, 3 or 10 watts. Push to talk or VOX operation. Squelch, meter indication of power out, received signal strength, calibration of receiver or transmitter frequency. Crystal may be changed and trimmed to frequency without removal of set from case — inspection plate provided. Built in speaker. Full SWR protection. Uses 2 IC, 1 FET, 1 SCR, 31 transistors, 27 diodes. Supplied with PTT dynamic microphone, all plugs, mobile bracket, AC and DC power cords. Operating manual.

To complete the installation we have home station antenna . . . MORROW 5 element Yagi, 6 over 6 skeleton slot, 11 element CO-Linear Yagi. All with matching devices, mounting suitable for either vertical or horizontal polarization. For the mobile we can supply HUSTLER CO-Linear and 5/8 vertical styles.

Write for full details of the FDK Multi 8, the FDK Multi 7 and the new FDK Multi 2000 for SSB/CW/FM on the 2 metre band, synthesised transceiver. Remote VFO suitable for all models of FDK transceiver.

Let us send you our complete listing of 2 metre gear and antenna equipment.

DES WRIGHT LTD

19 MAIORO STREET, AVONDALE EAST, AUCKLAND 7

PHONE 677-189

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FULL RANGE OF ELECTRONIC COMPONENT PARTS

Aerial Rods	Nippon	Thermistors	Ohizumi
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Ceramic Polyester	Murata N.C.C. Nissie		
Tantalum	N.C.C.		
Polystyrene	Suflex		
Tuning, Trim—TX. RX	Jackson		
Coil Parts	Neosid	INSTRUMEN	ITS
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Headphones	Alpha	Kitsets	Eico
Headsets	Danavox	Instruments	Kikusui
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Insulators	Jackson		Scopex
Panel Meters	Sew	Generators	Eico
Neon Indictors	McM-Reid	Precision Pots	Beckman
Plugs, Sockets	Sealectro	Sound Level Meters	Bruel & Kjaer
Connectors	McMurdo (Aus.)	D/A and A/D Converters	Datel Systems
Semiconductors	Texas Instruments	Digital Panel Meters	Datel Systems
Speakers & Enclosures	David J. Reid	Data Loggers	Datel Systems
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Toggle	NKK	Channel Recorders A	tlon-Tol Industries
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Country or State							Hours New	Behind Zealand
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The information in this list undergoes several changes during each year and in some places the current system is on trial. Sometimes a Local Mean Time is kept which differs from the Legal Standard Time — in parts of South Arabia the clocks are set to 00 hrs at sunset each day.

Where summer time is observed in the U.S.A., clocks are generally advanced by one hour from the last Sunday in April until the last Sunday in October.

Note: As an emergency measure daylight saving is being observed all year round in the U.S.A., for a 2 year period commencing 6 January 1974.

In Great Britain, Northern Ireland, the Channel Islands and the Irish Republic, clocks are generally advanced by one hour from the day following the third Saturday in March until the fourth Saturday in October.

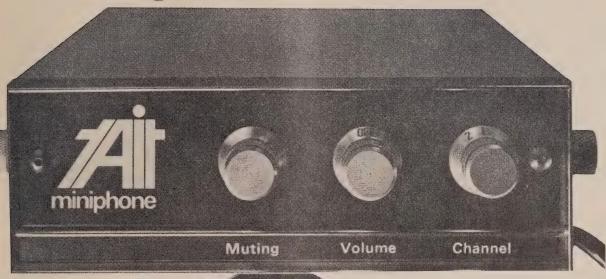
In Australia, the advancing of clocks is determined by proclamation each year. In 1973 the clocks in South Australia, Victoria, New South Wales and Tasmania were advanced by one hour on 26th October and will be restored to Standard Time on the first Saturday in March, 1974.

J. F. H. Harper,

New Zealand Time Service.

1st October 1973.

miniphone



actual size

Unrivalled in concept, in size, in versatility and in performance —



For Civil Defence VHF networks the logical choice.

Tait Electronics Ltd.,

42 BEDFORD ROW, CHRISTCHURCH.

Standard Frequency Transmissions . . .

WWV & WWVH

The National Bureau of Standards broadcasts standard time and frequency transmissions continuously through stations WWV and WWVH.

Station WWV, located at Fort Collins, Colorado, broadcasts on the radio frequencies of 2.5, 5, 10, 15, 20 and 25 MHz. Station WWVH, Kauai, Hawaii, broadcasts on the radio frequencies of 2.5, 5, 10, 15 and 20 MHz.

Both stations are controlled by caesium atomic oscillators. The frequencies are stable to better than 2 parts in 10¹¹ at all times compared with the atomic standards maintained at the N.B.S. Boulder Laboratories. Changes in the propogation medium cause frequency changes which are several orders greater than the uncertainties described above.

STANDARD TIME SIGNALS

Seconds pulses are transmitted continuously, even during tones and announcements, and are derived from the same oscillator which generates the carrier frequency. Each minute, except the first of the hour begins with an 800 millisecond tone of 1,000 Hz at WWV and 1,200 Hz at WWVH. The first minute of the hour begins with an 800 millisecond tone of 1,500 Hz from both stations.

The use of Greenwich Mean Time (GMT) as a synomyn for Universal Time (UT) is now being phased out internationally. As from January 1st, 1974, all time announcements will be referred to in terms of Universal Time. More precisely, the actual reference time scale is the Co-ordinated Universal Time Scale as maintained by the NBS.

The 0 to 24 hours system is used starting with 0000 at longitude zero. The first two figures give the hour and the last two figures give the minutes past the hour when the tone returns. The time announcement refers to the end of an announcement interval, i.e., to the time when the 0.8 second long audio tone begins.

A WWV a male voice announcement of Universal Time is given during the last 7.5 seconds of every minute. At 1035 UT, for instance, the voice announcement, given in English is: "At the tone, ten hours, thirty five miutes, Universal Time."

At WWVH a female voice announcement of UT is given during the period 45 seconds to 52.5 seconds after the minute. It should be noted that the voice announcement of WWVH precedes that of WWV by 7.5 seconds. However, the tone markers referred to in both announcements occur simultaneously, although they may not be so received due to propogation effects. The use of a female voice at WWVH and a male voice at WWV assists in distinguishing the two stations.

UNIVERSAL TIME CORRECTIONS

With the use as from the beginning of 1972 of the atomic time scale as the International time scale and because the rate of rotation of the earth is not By L. SPACKMAN, ZLIAC

constant, differences between mean solar time (UT1) and atomic time will accrue which could in time become inconvenient. (To quote an extreme case, 12 noon on the clock could occur in the middle of the afternoon). It is therefore necessary to make periodic adjustments to the atomic scale so that it roughly approximates mean solar time (UT1), which is still used by astronomers. Therefore, instead of frequent small corrections as in the past, large corrections of one full second will be made at infrequent intervals, which are not expected to average more than once a year and will usually be made on the last day of either June or December. During 1973 an adjustment of one second was made at the end of December so that the atomic time scale now leads UTI by 13 seconds. The atomic time scale will this, at all times, be within one second of mean solar time. These corrections will be encoded and broadcast once every minute from both stations.

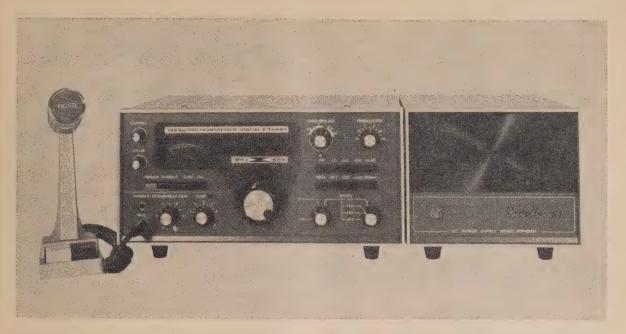
The method of coding UT1 corrections uses a system of double seconds pulses. The first through the seventh seconds pulse, when marked by a double pulse, will indicate a "plus" correction, and from the ninth through the fifteenth a "minus" correction. The eighth second pulse is not used. The amount of correction is determined by counting the number of seconds pulses which are double. For example, if the first, second and third seconds pulses are doubled the UT1 correction is 0.3 second. Or if the ninth, tenth, eleventh, twelfth, thirteenth and fourteenth seconds pulses are doubled, the UT1 correction is "minus" 0.6 second. The UT1 correction is also encoded in the IRIG-H BCD code.

STANDARD AUDIO FREQUENCIES

Standard audio frequencies of 440 Hz, 500 Hz and 600 Hz are broadcast on each radio carrier frequency by the two stations. The duration of each transmitted tone is approximately 45 seconds. A 600 Hz tone is broadcast by WWV during odd minutes and during even minutes by WWVH. A 500 Hz tone is broadcast during alternate periods unless voice announcements or silent periods are scheduled. The 440 Hz tone is broadcast beginning one minute after the hour at WWVH and two minutes after the hour at WWV. The 440 Hz tone is omitted during the first hour of the UTC day to act as a day marker.

No audio tones or special announcements are broadcast during a semi-silent period from either station. The periods are from 45 to 50 minutes after the hour from WWV and from 15 minutes to 20 minutes after the hour at WWVH.

The 29th and 59th seconds pulses are omitted in each minute. Each pulse is preceded by 10 milliseconds of silence and followed by 25 milliseconds of silence.



One of the latest from the Yaesu factory and incorporating the best design features of the earlier Yaesu sets. Hybrid design with valves and transistors used to advantage to give best overall performance. Brief specifications

Full coverage of all bands 80 to 10 metres.

560 watts PEP input SSB, 430 watts CW.

Single conversion IF system at 9 MHz for minimum spurious signals.

Operation is from 230 volts mains with the matching power supply/speaker unit.

NEW — FT-75-B, power rating now up to 120 watts PEP. Still the same small size. The perfect rig for mobile. Remote VFO and AC and DC supplies are available to allow the widest possible use.

COMING — The YO-100 Monitor scope. Styled to match the FT-100 series but suitable for most YAESU and other rigs.

COMING — FR-101 receiver, styled like the FT-101. Covering all amateur bands 160 to 10 metres plus 11 positions as options between the coverage limits.

COMING - FT-220 transceiver. 2 metre transceiver for FM/SSB/CW. Operation on 230 volts AC or DC 12 volts. Fixed channels and VFO operation.

In addition to the above rigs we can supply all the YAESU range, plus all the accessory items.

The FT-101B, FT-Dx-401, FT-200, FL-Dx-400, FR-Dx-400, these and all the well proved models are available . . . buy on terms, trades accepted as part payment towards your new Yaesu set.

As always with any equipment we sell, it is backed with service. We do not try to make the biggest claims or promises just this way will give you a fair deal. This is a year promises. promises—just this—we will give you a fair deal. This is our promise.

Let us send you the latest price list and details of the equipment that you are interested in.

YOUR AUTHORISED YAESU DISTRIBUTOR

DES WRIGHT LTD.

19 MAIORO STREET, AVONDALE EAST, AUCKLAND, 7 Telephone 677-189

PROPOGATION & GEOPHYSICAL FORECASTS

A forecast of radio propogation conditions is broadcast in voice during part of every fifteenth minute of each hour from WWV. The announcements are short term forecasts and refer to propogation along paths in the North Atlantic area.

Current geophysical alerts as declared by the World Warning Agency of the International Ursigram and World Days Service are broadcast in voice during the 19th minute of each hour from WWV and during the 46th minute of each hour from WWVH.

ANTENNAS & MODULATION

The broadcasts on 5, 10, 15 and 20 MHz from WWVH are from phased vertical half wave arrays. They are designed and oriented to radiate a cardioid pattern directing maximum gain in a westerly direction. The 2.5 MHz antenna at WWVH and all antennas at WWV are half wave vertical dipoles which radiate omnidirectional patterns.

At WWV and WWVH, double sideband amplitude modulation is employed with 50 per cent modulation on the steady tones, 25 per cent for the IRIG-H code, 100 per cent for seconds pulses and 75 per cent for voice.

VNG

The Australian Post Office experimental Standard Frequency and Time station VNG, Lyndhurst, Victoria is controlled by an atomic source and the accuracy is comparable with standard frequency stations in other parts of the world. As far as New Zealand is concerned it has the advantage of a shorter transmission path. The frequencies used are 4.5, 7.5 and 12 MHz.

The time signals comprise 50 millisecond and 5 millisecond bursts of 1,000 Hz at one second intervals. The minutes are identified by substituting the 5 millisecond pulses for the 50 millisecond bursts towards the end of each minute and omitting the 59th second pulse. During minutes 5, ten and each succeeding five minutes, nine short 5 millisecond pulses are transmitted at the end of each minute. During all other minutes only four short 5 millisecond pulses are transmitted. Announcements in voice are made during minutes 14, 29, 44 and 59.

The 4.5 MHz transmission is from 0945 to 2130 hours UT. The 7.5 MHz transmission is continuous except for a silent period from 2230 to 2245 hours UT. The 12 MHz transmission is from 2145 to 0930 hours UT.

ZLFS

Station ZLFS, operated by the frequency standards section of the Physics and Engineering Laboratory, DSIR, Gracefield, Lower Hutt, N.Z., transmits on a frequency of 2.5 MHz every Wednesday afternoon excepting public holidays) from 1300 to 1600 hours NZST. The transmission comprises an unmodulated carrier, the call sign being given at the beginning and end of the transmission. For those within ground wave range this provides the most accurate standard frequency transmission available in New Zealand.

OPERATING AIDS

CALLING PRACTCE

- 1—LISTEN first, TIME calls and transmissions carefully.
- 2—MAKE CQs SHORT. (Insert station call often). (Make directional as needed).
- 3—SHORT CALLS interrupted by listening periods are most effective.
- SENDING—Adjust speed to radio conditions and operator proficiency. (A steady 12 w.p.m. is superior to higher speeds with repeats)!

R-S-T REPORTING SYSTEM

READABILITY

- 1-Unreadable.
- 2—Barely readable—occasional words distinguishable.
- 3—Readable with considerable difficulty.
- 4—Readable with practically no difficulty.
- 5—Perfectly readable.

SIGNAL STRENGTH

- 1—Faint; signals barely perceptible.
- 2-Very weak signals.
- 3—Weak signals.
- 4—Fair signals.
- 5—Fairly good signals.
- 6—Good signals.
- 7-Moderately strong signals.
- 8—Strong signals.
- 9—Extremely strong signals.

TONE

- 1—Extremely rough, hissing note.
- 2-Very rough a.c. note; no trace of musicality.
- 3—Rough, low-pitched a.c. note; slightly musical.
- 4-Rather rough a.c. note; moderately musical.
- 5—Musically modulated note.
- 6-Modulated note; slight trace of whistle.
- 7-Near d.c. note; smooth ripple.
- 8—Good d.c. note; just trace of ripple.
- 9-Purest d.c. note.
- To indicate crystal characteristics, add letter X; to indicate chirpy signal, add letter C.
- RST? means "What is my report by RST system?"

SIGNAL REPORTS:

NEW ZEALAND RADIO & TELEVISION SECTION



The following is a list of T.V. channels:

RADIO NEW ZEALAND TITAHI BAY, WELLINGTON

----oooOooo-----

		Video	Sound	
				Two 7.5 k.w. transmitters operate on frequencies
				in the 16, 19, 25 and 31 metre bands. The current
	Frequency	Frequency	Frequency	schedule, as at May, 1973, is as follows:—
Channel	Bandwidth	MHz	MHz	RADIO NEW ZEALAND TRANSMISSION SCHEDULE—
1	44-51 MHz	45,25	50.75	5 May 1974 — 31 August 1974
2	54-61 "	55.25	60.75	During the May-August seasonal frequency period, Radio New Zealand will transmit as follows. Should frequency changes be necessary, they will be announced during normal transmissions.
3	61-68 "	62.25	67.75	(1) To Pacific Islands: 1700 - 1945 GMT —
4	174-181 "	175.25	180.75	ZL7 6.08 MHz — 49.34 metres ZL23 9.755 MHz — 30.75 metres 2000 - 0545 GMT — ZL21 15.11 MHz — 19.85 metres 0600 - 0845 GMT —
5	181-188 "	182.25	187.75	ZL7 6.08 MHz — 49.34 metres ZL2 9.54 MHz — 31.45 metres
				(2) To Australia:
6	188-195 "	189.25	194.75	2000 - 2230 GMT — ZL3 11.78 MHz — 25.47 metres 2245 - 0545 GMT —
7	195-202 "	196.25	201.75	ZL5 17.77 MHz — 16.88 metres 0900 - 1145 GMT — ZL18 9.52 MHz — 31.51 metres ZL6 11.705 MHz — 25.63 metres
				(note: ZL5 closes 0000 - 0100 GMT Sundays.)
8 .	202-209 ,,	203.25	208.75	
				(3) To Antarctica:
9	209-216 "	210.25	215.75	0015 - 0045 GMT — ZL4 15.28 MHz — 19.63 metres Reception reports and comments on the above

transmissions will be most welcome to N.Z.B.C., P.O. Box 98, Wellington.

N.Z.B.C. SOUND

T R A N S M I T T I N G

STATIONS

	MAIN TRANSMITTERS -												
CALL	FREQ kHz	MEAN OMNI k W	TX ·TYPE	EMERG PS	TYPE	DIATOR S HGT (n		HEIGHT (m)	LOCATION	CO - ORE	DINATES LONG. EAST	OBST LIGHT ING	EMERG PS
• IYK	1010	2	2	No	Mast	55	Dua1 }) 2	Waipapakauri	35° 02' 48"	173° 14' 38"	No	No
IZK	. 1440	2	Dual 1	No	Mast	55	Coupled)) 2	Waipapakauri	22 22 21	11 11 11	No	No
• IYE	1050	2 2	Dual 1	No No	Mast Mast	55	Dual () 183	Ohaeawai	39 21 45"	173° 52' 25"	No	No
IZE	1220 970	2	2	No No	Mast	55 53	Dual -)	,	Ohaewai Tikipunga	35° 40' 43"	174" 19' 13"	No No	No.
1ZN 1YX	830	2	2	No	} .	53	Coupled	98 98	Tikipunga	33 40 43 # # #	1/4 13 15	₩ ·	140.
IYA	760	20	Dual 10	Yes	(×	153	Dual - ,	15	Henderson	36° 50' 52"	174° 37' 51"	Yes	Yes
IYC	880	10	10	Yes	} "	.153	Coupled	15	Henderson		* * *	Yes	Yes
IZB	1070	10	10	No	("	122	Dual -)	9	Henderson	36° 50' 38"	174° 37′ 55″	Yes	Yes
1.ZW	1250	2	2	Yes	{ -	122	Coupled	9	Henderson	* * * *		Yes	Yes
ŧΖΗ	1310	2	2	Yes	5 *	53	Dual - }	49	Hill Crest	37° 47' 47"	175° 19' 43°	Yes	No
IYW.	1140	2	2	Yes	{ *	53	Coupled)	49	Hill Crest	* * *		Yes	No
IYZ	860	10	10	Yes	{ *	153	Dual -)	29	Paengaroa	37° 48' 54"	176° 24' 47"	No	No
IZD	1000	10	10	Yes	} "	153	Coupled	29	Paengaroa	P 4 8	P # P	No	No
1 Z C	1350	2	2	No		55		431	Tihiotonga'	38° 10' 21"	176" 13' 45"	Y.ès	No
12A	1500	2	Dual 1	No	Tower	41		423	Taupo	38" 40" 23"	176° 04′ 11*	Yes on Req.	No
120	1420	2	Dual 1	No	Mast	55		259	Wiltsdown	38° 09' 47"	175°.47° 25°	No	No
IZT	1390	0.1	0.1	No		21		366	Turangi	38" 58' 50"	175° 47' 46"	No	No
IZU	1520	1	1	No	Tower	41		167	Taumarunui	38° 53' 15"	175° 15' 30°	Yes on Req.	No
2ZG	1060	. 2	2	Yes	Mast	53) Dual	15	Wainui	38° 41' 44"	178° 03' 45"	Yes	Yes
2YW	1180	. 2	Dual 1	Yes	n	53) Coupled	15	Wainui			Yes	Yes
ZYZ	630	20	Dual 10	Yes	*	88	Bi - direct)	53	Орара	394 47' 47"	176° 40' 17* 176° 40' 23*	No	No
2ZC	128L	2	2	No	Tower	41	ional 4	15	Opapa Pakowhai	39° 47′ 51″ 39° 33′ 46″	176° 40' 23" 176° 51' 57"	No Yes on	No No
2ZP	1370	2	2	No	Mast	53		8	Bell Block	39° 02' 28"	174° 07' 38"	Req.	No
2 Z W	1200	-2	2	Yes	Mapr	55		61	Kaitoke	39° 57' 49"	174 07 38 175° 04' 41"	Yes	Yes
22A	940	2	-2	No		53		20	Kairanga	40° 20' 37"	175" 34" 12"	Yes	No
220	840	2	2	Yes	Mast	53 55		137	. Waingawa	40° 58° 00"	175° 35' 00"	Yes on	Yes
-								67				Req.	
2YA	570	100	Dual 50	Yes	{ "	218	Dual - }		Titahi Bay	41° 05' 47"	174° 50' 33°	Yes	Yes
2YC	660	60	60.	Yes	*	218	Coupled 5	67		p : 30 pr	0 W R	Yes	Yes
2YB	800	20	Dual 10	Yes	(Mast	122	Dual - }	66		41° 05′ 41″	174° 50' 58"	Yes	Yes
228	980	20	-Dual 10	Yes	{ *	122 53	Coupled.	66 43	n #	41 6'02"	* * * 174°50'49*	Yes No	Yes No
2ZH	1130	3	2	Yes	Towers	47	T	195	Mt. Victoria	41° 17' 44" 41° 17' 47"	174° 47′ 49″ 174° 47′ 42″	Yes Nth Tower	Yes
2ZN	1340	2	2-	No	Mast	53	Dual)	12	Stoke	41° 19' 49"	173° 12' 50*	Yes	No
2YX	1150		1	No		53	Coupled)	40	25 15	41°19'49"	173°12°50"	Yes	No
27E	1540	1	1	Yes	Tower	41		9	Blenheim	41~ 31* 03**	173" 57' 33"	Yes '	Yes
† 2ZH	1560	2	Dual 2	No .	20	41		134	Normanby	39° 31′ 23°	174° 16' 17"	Yes	No
3YA	690	20	Dúal 10	Yes	Towers	91 91		Nth. 223 Sth. 240	Gebbies Pass	43° 41' 39" 43° 41' 46"	172° 38' 37° 172° 38' 35"	-No	No
3YC	960	. 10	10	No	(Mast	122	Dual -)	193	2 4	43" 41" 46"	172° 38′ 47″	No	Yes
3ZB	1100	10	10	No	t "	122. 31	- Coupled }	193	W 49	* .* *	2 2 4	No	Yes
3ZM	1400	2	Dual 1	No	Tower	53	Unipole	23	Halswell	43° 33' 38"	172° 34' 48"	Yes	No
37C	1160	2	2	Yes	Mast			,10	Washdyke	44° 20' 57"	471° 15′ 41*	Yes	No
370 377	*1550 920	0.1 10	0.1	No Yes	Mast (Mast	27.4 153	Dual 3	470	Twizel Kumara	'44° 14' 55" 43° 34' 29°	170° 05' 27° 171° 08' 32*	No No	No No
37A	750	2	Dual 1	Yes	(mast	153	Coupled }	32	0	#3 04 25 b # #	1/1 00 27	No	Bo
				lkW only		40	, , , ,	32				1.0	
3 Y W	1460	. 2	Dual 1	No	Tower	41		50	Cape Foulwind	41° 51' 06"	171° 27' 56"	No	No
4YA	780	29	Dyal 10	Yes	Mask.	153	bust 2	343	Higheliff	45° 53′ 13″	170° 35′ 40″	Yes	No
4YC	900	10	10	No	(Mast	122	Dual 3	278		45° 53′ 04″ -	170° 35' 13"	Yes	No
4ZB	1040	10	10	No	p	122	Coupled }	278		19 18 18	* * *	Yes	No
4YW	640	2	Duat 1	No	٠	107		308	Alexandra	45° 09' 52"	169° 23' 34"	Yes on	No
44~	700	-00	Duol 10	Va	's Mort	98				4Ca 141 102		Req.	,
4YZ	720	20	Dual 10	Yes	(.Mast		*Dual }	61 61	Dacre	46° 19' 13"	168° 37' 16"	No	Yes
4ZA	820	10	10	Yes		25	Coupled 5	OT.		1	* * *	No	Yes

EMER	CENI	r v 1	DA A EE	CHIT	7 2 2

- STUDIO -

	LA IS OM 1		" (2100	10		
LOCATION	ERP			EMER	G	OPERATING HOURS	NZCT	T CALL
	k W	PS	LOCATION	PS	MONDAY - FRIDA		1 SUNDAY	SIGN
			Rust Lane Whangarei	Yes	0600 - 2315	0600 - 2315	0000 0015	IYK
			1ZN Whangarei Repeater	Yes	0500 - 2305	0500 - 2305	0600 - 2315 0600 - 2230	IZK
			Rust Lane Whangarei	Yes	0600 - 2315	0600 - 2315	0600 - 2315	IYE
			1ZN Whangarei Repeater	Yes	0500 - 2305	0500 - 2305	0600 - 2230	IZE
Rust Lane Whangare	0.1	Yes	Rust Lane Whangarei	Yes	0500 - 2305	05 00 - 2305	0800 - 2230	IZN
			Rust Lane Whangarei	Yes	0600 - 2315	0600 - 2315	0600 - 2315	IYX
		1	Durham St. Auckland	Yes		Continuous *	0000 - 2010	IYA
Henderson	2	Yes		Yes	1700 - 2300	Variable	1500 - 2300	IYC
Henderson	5	Yes	Durham St. Auckland	Yes	0500 2400	0500 - 2400	0600 2400	IZB
Henderson	0.1	Yes	1 *	Yes	0600 - 2400	0600 - 2400	0900 - 2200	IZM
Alma St. Hamilton Hill Crest	01	Yes	Alma St. Hamilton	Yes	0500 - 2400	0500 - 2400	0700 - 2230	(ZH
	0,5	Yes		Yes-	0600 2315	0600 - 2315	0600 - 2315	IYW
Paengaroa Paengaroa	1	Yes	77-14 011 1(010100	Yes	0600 - 2315	0600 - 2315	0600 - 2315	IYZ
	1	Yes	-19 ou searange	No	0500 - 2230	0500 - 2305	0730 - 2230	IZD
Arawa St. Rotorua	0.1	Yes	Arawa St. Rotorua	Yes	0500 - 2230	0500 - 2230	0800 - 2230	IZC
			Taupo Wairakei Main H/way	No	0500 - 2315	0500 - 2 315	0600 - 2315	IZA
			Bridge St. Tokoroa	No	0500 - 2315	0500 - 2315	0600 2315	izo
			1ZA Repeater	No	0500 - 2315	0500 - 2315	0600 - 2315	IZT
		1	Huia St. Taumarunui	No	0500 2315	0500 - 2315	0600 - 2315	120
Grey St. Gisborne	0.25	No	Grey St. Gisborne	No	0600 2305			
		}	Grey St. Gisborne	No	0600 2305 0600 2315	0600 - 2305	0800 - 2230	226
			Dickens St. Napier	No	0600 - 2315 0600 - 2315	0600 - 2315	0600 - 2315	2YW
Dickens St. Napier	0.1	Yes	Dickens St. Napier			0600 - 2315	0600 2345	2YZ
Brougham St. New Plymouth	0.1	Yes .		No	0600 2400	0600 2400	0700 - 2230	2ZC
Guyton St. Wanganui	0.03		Brougham St. New Plymouth	Yes	0600 - 2305	0600 - 2305	0800 - 2230	2ZP
George St. Palmerston North	0.03	No Yes	Guyton St. Wanganui	No	-0600 - 2305	0600 - 2305	0800 - 2230	2ZW
Waingawa	0.1	Yes	George St. Palmerston North	Yes	0600 2400	0600 - 2400	0700 - 2230	2ZA
nungunu	1 0.1	1.62	Church St. Masterton	Yes	0600 2300	D600 - 2230	0800 - 2230	220
			Bowen St. Wellington	Yes	C0	ntinuous *		
Titahi Bay	10	Yes	2 2 y		1700 - 2300	Variable	1500 2300	2YA
			# 12 p	,	1400-2300 Tues - Thu	Yallable	1500 - 2300	2YC 2YB
					1000 - 1600 Fri., Dure	ng Parl/t Nit	Nil	
				1 *	0600 2400	0600 - 2400.	0600 - 2400	2ZB
It Victoria	0.1	Yes.	h # 1	Я	0600 - 2400 -	0600 - 2400	0900 - 2200	2ZM
rafalgar Square	0.1	Yes	Trafalgar Square	Yes	0600 - 2305	0600 - 2305	0800 - 2230	2ZN
			Nat. Prog. Repeater	Yes	0600 - 2135	0600-2315	0600-2315	2YX
			Kinross St. Blenheim	Yes	0600 1200	0600 1200 & 1800 1930	Nil	2ZE
			2ZP New Plymouth Repeater (Hawera Studio)	Yes	0600 2305	1730 - 2305	0800 - 2230	2ZH
			Gloucester St. Christchurch	rlo Yes	Ocean	*		
ebbies Pass			* * *]	Cont	inuous		3YA
ebbies Pass	2	Yes		Yes	1700 - 2300	Variable	1500 - 2300	3YC
conics Lass	2	Yes	Colombo St. Christchurch	No	0600 2400	0600 - 2400	0600 - 2400	3ZB
ophia St. Timaru	0.1	No		Wo	0600 - 2400	0600 2400	0900 - 2200	3ZM
prio St. Filliard	0,1	140	Sophia St. Timaru 3ZC Repeater	No No	0600 23 <u>05</u> 0600 1900	0600 - 2305 0600- 1900	0800 - 2230 0800 - 1900	3 Z C 3 Z O
umara	1	Yes	McKay St. Greymouth	Yes	0600 - 2315	0600 - 2315	0800 - 1900 0600 - 2320	370 37Z
			McKay St. Greymouth	Yes	0600 1400		0900 1200	3ZA
						0600 - 1700 & 1900 - 2300		32.7
	1		3YZ 3ZA Greymouth Repeater .	Yes	0600 - 2315	0600 - 2315	0600 2315	3YW
ghcliff		Vos	Albany St. Dunedin	Yes		nuous *		4YA
Euclid	2	Yes		Yes	1700 2300 + Parliament	Variable	:1500 - 2300	4YC
	2	Yes	R B g	Yes	0600 - 2400	0600 2400	0600 2400	4ZB
			AVA A7D Donoslas	V				
			4YA -4ZB Repeater	Yes		nuous *		4YW
			Deveron St. Invercargill	Yes	0600 - 2315	₩600 – 2315	0600 2315	4YZ
veron St. Invercargill	0.5	Yes		Yes	0600 2400	0600 2400	0700 - 2230	4ZA

^{** 1} and 3'A close 2315 Sunday — 0600 Monday alternate weeks with 2'A, 4'YA and 4'YM 1 Amended since last issue.

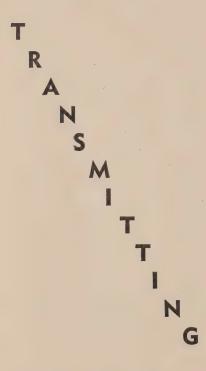
N.B. 2'YA close 2315 Sunday — 0500 Monday

Commissioned since last issue



H.O.E OPERATIONS

N	.Z.	В.	C.	
TEL	EV	IS	10	N



STATIONS

H.O.E OPERATIONS										
	LOCATION	CHAN NEL	OFF SET kHz	POLAR		TRAN POWER k W	SMITTER TYPE	EMERG. PS	RADIATOR SUPPORT	SUPPORT HEIGHT (m)
	Te Aroha	1	-10	v	100	Dual 10	Transmitter	Yés	Tower	126
	Waiatarua	2-	-10	Н	100	Dual 10	y	Yes	Tower	125
	Hikurangi	3.	0	Н	1	0.5	Translator	No	Tower	38
	Kaeo	4	0	н	0.01	0.005		No	Pole	8
	Ahipara	4	0	н	0.005	0.001	tr	No	Mast	7
	Takahue	4	0	٧	0.0004	0.0003	u ,	No	Pole	9
	Omapere	4	0	н	0.005	0.002	tr .	No	Pole	9
ŧ	Mangonul	4 -	0	٧	0.01	0.005	•	No	Pole	8
Ť	Russell	4	+10	٧	0.005	0.005	17	No	Pole	6
	Waihou Valley Horokaka Warkworth	4 5 5	0 0 30	V H V	0.001 2 0.021	0.003 0.5 0.005		No Yes No	Pole Tower Pole	6 35 6
	Maungataniwha	6	· •Q	у	3	0.5	*	∙No •	Tower	38
	Whangaruru	6	+10	٧	0.01	0.005	•	No	Pole	. 8
	Mt Maunganul	6	0	н	0.001	0.0003		No	Pole	10
	Manawahe	6		٧	0.05	0.025		No	Po!e	6
*	Rotorua	6		H'	0.02	0.01	*	Yes	Pole	9
*	Taupo	6		Н	0.005	0.005	*	No	Mast	31
	 South Kaeo Parahaki 	7	-10 0	₹	0.0003 0.01	0.0003 0.003	17 W	No No	Pole Pole	9
	Herekino	7	+10	٧	0.0003	0.0003	* ,	No	Pole	9
	Broadwood	7	+10	V	0.0005	0.0003		No	Pole	9
	Waimamaku	7	+10	"H	0.006	0.002	•	No	Pole	12
*	Kawerau	7 8	10	, N	0.001	0.001	#1 #1	No No	Pole Pole	10
	Ngunguru	0	-10		0.02	0.500				
	Kaukau	1	0	Н	100	Dual 10 .	. Transmitter	Yes	Tower	122
	Mt Murchison	1	+10	٧	2.00	0.5	Translator	Yes	Pole	9
	Whakapunake	1	+10	Ĥ	10	5.0.	Transmitter	Yes	Tower	65
	Mangatarata	2	-10	٧	0.05	0.05	2	No	Pole	15
	Wharite	2	0	ν	100	Dual 10	Transmitter	Yes	Tower	122
•	Grampians	3	+10	Н	5.00	3.0		No	Tower	61
	Tapuaeroa	3	0	Н	0.003	0.001	Translator	No	Pole	9
	Hector Tutore	3	-10	H	0.008	0.005	Translator	No No	Pole	12 15
	Tutara Waipiro Bay	4	0 +10	V	0.001	0.003	# (Idiisiatu)	No	Pole Pole	9 .
	Tokomaru Bay	4	-10	Н	0.001	0.0003		No	Pole	9
	Matawai	4	+10	н.	0.005	0.005		No	Pole	15
		4				0,000		110	1.016	13
*	Mangaoparo Mangaoparo	1	0	٧	0.0003	0.0001	Repeater	. No	Pole	6

[†] Amended since last issue

Commissioned since last Issue

[•] Interim Translator

Correct as at 31 December 1973

OBSTRUCTION LIGHTING EMERG. PS		HEIGHT (m) M.S.L	CO-ORDINATES LAT. SOUTH LONG EAST		STUDIO LOCATION	CALL SIGN	LOCATION
Yes	Yes	944	37° 32′ 08*	175° 44' 01°	Shortland St. Auckland	A kTV - 2	Te Aroha
Yes	Yes	391	36° 55' 39*	174° 34' 03°		2	Wajatarua
Yes	Yes	662	35° 32′ 35″	173° 55′ 30°		*	Hikurangi
No	No	254	35° 06′ 50*	173° 44' 38*		7	Kaeo
No	No	208	35° 10' 25"	173° 08′ 52°			Ahipara
No	No	228	35° 12' 50"	173° 20' 50'		20	Takahue
No	No	174	35° 32' 30°	173° 23' 08°			
No	No	178	34° 57' 28"	173° 32' 25°		.,	Omapere
No	No						Mangonui
No	No	61 215	35° 15' 30" 35° 16' 40°	174° 08' 00'' 173° 44' 10'		2	Russell
Yes No	No No	594	35° 52' 20"	174° 08' 08"	,	17	Waihou Valley Horokaka
NO	110	77	36° 23′ 00°	174° 39' 40°		n .	Warkworth Horokaka
Yes	No	582	35° 10' 03°	173° 32′ 00"	-	71	Maungataniwha
	11.	(22	07- 001 008	475- 401 000		,	
No	No	457	35° 26' 23"	174° 19' 22"			Whangarury
No	No	3	37° 38' 18*	176° 10′ 48*			Mt Maunganuî
No	No	446	37° 57' 30"	176° 40' 20°	,	27	Manawahe
No	No	759	38° 07′ 10*	176° 11' 48"		n	Rotorua
No	No	662	38° 42' 40°	176° 00' 00"		и	Taupo
No No	No No	305 242	35° 07' 45" 35° 43' 00"	173° 46′ 40°° 174° 20′ 03°		99 71	South Kaeo Parahaki
No	No	95	35° 15' 25"	173° 23′ 30°		8	Herekino
No	No	128	35° 15' 30"	173° 23' 40"	,	n	Broadwood
No	No	392	- 35° 34' 30"	173° 27' 22*		n	Waimamaku
No	No	88	38° 05′ 28″	176° 41° 40°			Kawerau
No	No	137	35° 36' 45°	174° 31' 10"		2	Ngungúru
Yes	No	425	41° 14' 07°	174° 46′ 45″	Waring-Taylor St., Wellington,	WNTV-1	Kaukau
No	No	1471	41° 43′ 50°	172° 30' 00"		2	Mt Murchison
Yes	No	943	38° 50' 05"	177° 35' 50°		8	Whakapunake
'No	No	728	38° 05' 55*	178° 05′ 40″		я	Mangatarata
Yes	Yes	915	40° 15' 20"	175° 51' 30"		7	Wharite
No	No	392	41° 18' 4 "	173• 14' 47"			Grampians
No	No	523	37° 52' 49°	178° 11′ 24″			Tapuaeroa
No	No	3	41° 36' 25"	171° 51' 55'		n	Hector
No	No	269	37° 48' 30"	178° 21′ 30°			Tutara
No	No	233	38° 01' 45"	178° 19' 30"		e#	Waipiro Bay
No	No	305	38° 08' 50"	178° 18' 45"		8	Tokomaru Bay
No	No	884	38° 21′ 15*	177° 23′ 20°		3	Matawai
	No	462	37° 50° 38°	178° 14' 58°		9	Mangaoparo

Hours of transmission.

1 of 3

NZBC

	N	Z.	В.	C.
T	EL	EV	IS	ION

T R A N S M I T T I N G

STATIONS

H.O.E. OPERATIONS									
LOCATION	LOCATION CHAN OFF SET KHZ			NOM,	TR POWER kW	ANSMITTER TYPE	EMERG PS	RADIATOR . SUPPORT	SUPPORT HEIGHT (m)
Muriwai Poutoko Nth Paturau Rive Sth Paturau Rive		+10 +10 0 0	V V	0.005 0.2 0.0003 '0.0003	0.003 0.05 0.0003	Translator ** Repeater	No No No	Pole Pole Pole	11 11
Wainui Inlet Sandy Bay	4 4	-10 + ₁₀	H V	0.0003 0.001 0.001	0.0003	Translator Translator Repeater	'No 'No No	Pole Pole Pole	9 5
Takaka Hill	4	+10	Н	0.75	0.075	Translator	No	Tower	18
Cobb Dam	4	+10	ν	0.0003	0.000125	Repeater	No	Pole	2
Delaware Bay	4	-10	н	0.0005	0.0003-	Translator	No	Pole	9
Glenduan	4	0	٧	0.0005	0.0003	и	- No	Pole	9
Pokororo	4	0	V	0.002	0.001	n	No	Pole	12
Woodstock Waimarie	4	-10 0	H	0.001	0.0003	Translator	No	Pole	9
Karamea	4	-10	V	0.005	0.001	Translator	No No	Pole	12
Reefton	4	0	H	0.025	0.01	Translator	Yes	Tower	36
Te Puia	5	-10	v	0.001	0.001	Translator	No.	Pole	61
Titirangi	5	+10	н	0.001	0.05	Translator	No No	Pole	12
Opunake	5	-10	ν	0.3	0.05	Translator	No	Tower	37
Kohatu	5	+10	v	0.2	0.075	Translator	No	Tover	25
Greymouth	5	0	Н	0.065	0.05	Translator	No.	Tower	16
 Kokatahi 	5	-10	v	0.008	0.005	Translator	No	Pole	9
Mt. Hercules	5	+10	V	0.1	0:06	Translator	No	Tower	. 33
. Hicks Bay	6	0	Н	0.01	0,005		_ No	Pole	12
Mt Egmont	6	-10	н	5.0	Dua1 0.5	2	Yes	Tower	27
Mt Erin	6	+10 0	٧	5	0.5	77	Yes	Tower	34
■ Waikanae ■ Tua Marina	6		H	0.001 0.025	0.0003 U.U15	2	No No	Pole Pole	6 8
Kiwi	6	0	Н	0.001	0.0003	* 1	No	Pole	. 9
Gowan Valley	6	0	γ	0.0004	0.0003		No	Pole	
St Arnaud	6	0	V	0.001	0.0003		No	Pole	. 8
Paenga Mt Rochfort Pukeiti Whakaangiangi Otahoua	6 6 7 7	+10 -10 +10 0	V V H	0.002 1.0 0.3 0.001 0.3	0.0003 0.5 0.0003 0.1	n Transmitter	No Yes No No Yes	Pole Tower Tower Pole Mast	52 24
Paekakariki	7	-10	ν .	0.02	0.005	Translator	No I	Pole	21
Riwaka Valley	7	-10	н	0.0003	0.0003	110110101	No I	Pole	9
Akatarawa	7	-10	v	0.0012	0.0003		No	Pole	10
Titahi Bay	7	-10	Н	0.02	0.005		No	Pale	6
Drum duan	7	0	V	0.002	0 001	,	No	Pole	9
Maitai	7	-10	Н	0.0005	0 0003	90	No	Pole	6
Thorndon	7	-12	н	0.01	0.005		- No	Bldg	24
Hine Rd. Wainui	7	0	Я	0.001	0.0003		No	Pole	10
Aro Street	7	0	٧	0.01	0,005	n -	No	Pole	6
Rodrigo Road	7	+10	н	0.01	0.005	*	No	Pole	11
Fort Dorset	7	0	V	0.01	. 0,005		No	Pole	7
Glenhope	7	0	Н	0.001	0.00025	29	No	Pole	9
Mangles Valley	7	+10	н	0.001	0.0003	. 11	No	Pole	12
Shenandoah	7	0	Н	0.001	0.0003	я ,	No	Pole	12
 Seddonville 	7	-10	٧	0.002	0.00%	Translator	No	Pole	12
 Inangahua 	7	-10	V	0.001	0.001	Translator	No	Pole	9
Paparca Ranges	7	0	Н	20.0	5.0	Transmitter	Yes	Tower	52
Wanganul	8	0	Λ.	0.02	0.005	7	No	Pole	9
Mt. Burnett	8	+10	н	0.4	0.075	•	No	Tower	19
Paraparaumu	8	0		0.0006	0.0003	#	No	Pole	9
Cobb Power Station	8	-10	V	0.001	0.0003	R .	No	Pole	2
						1	1	1	1

[†] Amended since last issue

[•] Commissioned since last issue

^{*} Interim Translator

CORRECT AS AT 31 December 1973

					CURRECT AS A	. 01 5000,000	
OBSTRI	UCTION IG EMERG PS	HEIGHT (m) M.S.L.	Lat. South	ORDINATES Long East	STUDIO LOCATION	CALL SIGN	LOCATION
No	No	158	41° 15' 30''	174° 57' 15''	Waring-Taylor St. Wellington	WNTV-1	Wright St. Wainui-o-mata
No	No	3	41° 16' 05"	174° 47' 05"		22	Grain Silo
No	No	228	41° 17° 00°	174° 43° 50°°		п	Karori
No	No	152	41° 17' 10"	174° 45' 22"		**	N/land Fire Station.
No	No	18	41° 17' 10"	174° 49′ 30′′		,,	Darlington Road
No No	No No	18 5	41° 18′ 40° 41° 12′ 10′°	174° 49′ 10′′ 174° 55′ 10′′		**	Glamis Ave.
No No	No No	243 778	41° 14′ 00′′ 41° 42′ 50′′	174° 55' 10'' 174° 49' 10'' 172° 54' 25''		1)	Melling Newlands
No	No	213	41° 48′ 35′′	172° 19′ 00′′		"	Kikiwa Six Mile Valley
No	No	315	41° 46' 48''	172° 20' 00"		23	Matirî
No	No	906	39° 19′ 10′′	174° 06′ 15′′		2)	Dawson Falls
No	No	185	37° 57′ 00′′	178° 14' 18''		7.7	Makarik a
No	No	736	43° 42' 40''	172° 56′ 15′′	Gloucester St. Christchurch	CHTV-3	Mt Pearce
Yes	No	496	43° 36′ 15′′	172° 39' 00"		21	Sugar Loaf
No	No	748	42° 54' 30'	172° 48' 55''		21	Waikari
No	No	3	43° 33′ 35′′	172° 42' 30'."		33	Heathcote
No	No	76	43° 34' 25''	172° 46' 30''		79	Sumner
No	No	152	43° 35′ 58″	172° 43' 35'!		ir	Lyttelton
Yes	Yes	1088	44° 38′ 30′′	170° 53′ 30′′		n	Mt Studholme
No	No	366	43° 46′ 20′′	173° 04' 30''		11	Le Bons Bay
No	Nu	912	42° 35' 40''	172° 48' 10''		13	Hanmer
No	No	502	43° 46′ 30′′	172° 48' 45''		11	Trig T
No	No	231	43° 49' 20"	172 ° 57' 20"		11	Kaik Hill
No No	No No	549 954	43° 47' 50" 44° 08' 25"	173° 02' 15" 170° 16' 50"		tı	Gough's/Hickory Bay Mt Mary
No	No	92	42° 28' 55''	173° 31' 42''		,,	Goose Bay
No	No	1038	42° 11' 56''	173° 47' 30"		"	Blue Duck
No	No	588	42° 25′ 25′	173° 23′ 59′′		,,	Surrey Downs
'es	No	644	46° 05' 45"	168° 42' 00"	Dowling St. Dunedin	DNTV-2	Hedgehope
es	Yes	674	45' 48' 09''	170° 33' 03'		"	Mt Cargill
lo	No	92	45° 51' 01''	170° 30' 00''		13	Woodhaugh
lo	No	46	45° 38′ 00°	170° 05' 00"			Middlemarch
0	No	1108	451 55' 42"	168° 44' 12''		1)	Coronet Peak
lo	No	31	45° 44' 35''	170° 36' 55''		"	Doctors Point
0	No	122	45° 53′ 06′′	170° 28' 04''		,,	Caversham
lo	No	21	45° 52′ 03′′ 45° 55′ 50′′	170° 35' 06'' 169° 57' 55''		,,	Ravensbourne
lo es	No No	518 638	45° 55′ 50′′ 46° 14′ 30′′	169° 57' 55'' 169° 22' 10''		27	Waipori Falls Kuriwao
0	No	708	44° 49' 30"	168° 49' 30''		1	Morven Hill
	No	829	45° 01' 42"	168° 39' 00"			Skyline Chalet

Hours of transmission,

 Mon — Thurs:
 Trade
 0930 — 1315
 Programme
 1400 — 2400

 Friday
 Trade
 0930 — 1315
 Programme
 1400 — 2400

 Saturday
 Trade
 1200 — 1315
 Programme
 1400 — 2400

 Sunday
 Trade
 Programme
 1400 — 2300
 3 of 3

NIZBC

N.Z.B.C. TELEVISION

RANSMITTING

STATIONS

	H.O.E. OPERATIONS									
	LOCATION	CHAN NEL	OFF SET KHz	POLAR	NOM. ERP kW	TRANS POWER kW	MITTER TYPE	EMERG PS	RADIATOR SUPPORT	SUPPORT HEIGHT (m)
	Wright St. Wainul	8	0	Y	0.001	0.0003	Translator	No	Pole	10-
	Grain Silo	8	+10	V	0.0075	0.0003	Translator	No	Bldg	61
	Karori	8	G	Н	0.01	0.005	Translator	No	Pole	9
	N/land Fire Stn.	8	0	٧	0.0001	0.0001	Repeater	No	Bldg	8
	Darlington Road	8	0	Н	0.006	0.0003	Translator	. No	Pole	10
•	Glamis Ave. Melling Newlands Kikiwa Six Mile Valley	8 8 8 8	-10 -10 -10 +10 +10	У Н Н Н	0.001 0.001 0.001 0.001 0.005	0.003 0.001 0.001 0.0003 0.001	Translator Translator Translator Translator Translator	No No No No No	Pole Pole Pole Pole Pole	10 10 10 9 9
	Matiri	8	+10	٧	0.003	0.003	Repeater	No	Pole	9
	Dawson Falls	9	0	V	0.3	0,05	Translator	No	Pole	15
*	Makarika	9	-10	A	0.001	0.0003	Translator	No	Pole	9
t	Mt Pearce	1	410	В	0.1	0.04	Translator	Ño	Tower	35
	Sugar Loaf	3	70	н	100	Dual 10	Transmitter	Yes	Tower	121
	Waikart	4		н	0.005	0.0025	Translator	No	Pole	9
	Heathcote	4	0	Н	0.02	0.005	Translator	No	Pole	9
	Sumner	4	-10	٧	0.02	0.005	Translator	No	Pole	9
	Lyllelton	4	-10	H	0.02	0.005	Translator	No	Pole	. 9
	Mt Studholme	4	-10	V	2	0.5	Translator	Yes	Tower	34"
*	Le Bons Bay	5	.0	Н	0.005	0.005	Translator	No	Pole	6
	Hanmer	5		H	0.025	0.025	Translator	No	Pole	6
	Trig T	5	-10	γ	0.01	0.005	Translator	No	Pole	14
	Kaik Hill Gough's/Hickory Ba Mt Mary	5 5 5	-10	H V V	010 0.001 0.03	0.005 0.0003 0.005	Translator Translator Translator	No No No	Pole Pole Pole	10 8 6
	Goose Bay	6	+10	٧	0.001	0.0003	Translator	No	Pole	6
	Blue Duck	8	+10	н	0.7	0.15	Translator	Yes	Tower	24
	Surrey Downs	9	-10	V	0.025	0.005	Translator	No	Pole	8
	Hedgehope	1	+10	Н	100	Dual 10	Transmitter	No	Tower	117
	Mt Cargill	2	+10	н	50	Dual 5	Transmitter	Yes	Tower	110
t	Woodhaugh	4	+10	Н	0.005	0.0005	Translator	No	Pole	9
4	Middlemarch	4		Н	0.025	0.025	Translator	No	Pole	9
*	Coronet Peak	4		V	0.015	0,005	Translator	No	Pole	9
	* Doctors Point	5	. +10	Н	0.001	0.0003	Translator	No	Pole	9
	Caversham	5	0	Н	0.005	0.0003	Translator	No	Pole	8
•	Ravensbourne Waipori Falls Kuriwag	5 5 5	-10 0 +10	V H	0.02 0.001 0.2	0.005 .0.0003 0.1	Translator Translator Translator	No No Yes	Pole Pole Tower	5 •11 36
e	Morven HIII	6		Н	0.01	0.005	Translator	No	Pole	8
0	Skyline Chalet	7		В	0.005	0.005	Translator	No	Pole	9

† Amended since last issue.

Commissioned sinse last issue

[·] Interim Translator

-		-					
OBST	RUCTION	HEIGHT	CO-ORI	DINATES	STUDIO LOCATION	CALL SIGN	
LIGHTIN		(m) M.S.L	LAT. SOUTH	LONG EAST		- Transfer	LOCATION
-	PS		-				200711011
No	. No	122	38° 45′ 55°	177° 56° 00°	Waring-Taylor St., Wellington	WNTV-1	Muriwai
No No	No No	83 90	39 06' 10°	· 173° 59' 15"			Poutoko
No	No	91	40° 39° 12° 40° 39° 30°	172° 25' 30° 172° 26' 10°			Nth Paturau River Sth Paturau River
No No	No No	32 274	40° 48' 30" 40° 59" 45°	172° 57° 12" 172° 58' 50°		-	Wainui Inlet.
No	No	882	41° 02' 25°	172° 51' 22*			Sandy Bay Takaka Hill
No	No	1069	41° 06′ 28°	172° 41' 20"		9	Cobb Dam
No	No	97	41° 10' 11"	173° 27' 04"		9	Delaware Bay
No	No	31	41° 11'-50"	173° 22° 00°		19	Glenduan
No	No	121	·41° 11' 40"	172° 52' 20"		12	Pokororo
No	No	152	41° 15′ 55°	172° 49′ 00°			Woodstock
No No	No	6	41° 31′ 55′°	171° 55′ 55′′		4 '	Waimarle
No	No No	44	41° 16' 00''	172° 06' 50"		3	Karamea
		518	42° 07° 20'°	171° 51′ 30′′		1a	Reefton
No	No	338	38° 02' 30"	178° 18' 30"		. 1	Te Pula
No	No	336	38° 23′ 50′′	178° 19' 20"		4	Tilirangi
Yes.	No	37	39° 19′ 10′'	174° 06' 15"		1 3	Opunake
No	No	610	41° 26' 24"	172° 41' 42''		4	-Kohatu
Yes	No	3	42° 27' 30'	171° 11° 20′°			Greymouth
No 	No	91	42° 53" 12"	171° 00′ 00″		A	Kokátahi
No	No	348	43° 10′ 10′′	170° 27' 48"		t)	Mt Hercules
No	No	183	37° 36' 05"	178° 18' 15"		19	Hicks Bay
No	Yes	1462	39° 17' 40°	174° 05′ 14″		9	Mt Egmont
Yes No No	Yes No No	489 46 202	39° 44′ 30* 40° 53′ 25* 41° 25′ 50*	176° 50′ 30° 175° 03′ 20° 173° 55′ 50°		to A	Mt Erin Waikanae Tua Marina
No	No	~ 396	41° 32′ 10°	172° 45' 17"		*	Kiwi
No	No	. 640	41° 46' 12°	172° 35' 45°			Gowan Valley
No	No	7 92	41° 48′ 30°	172° 52' 00°		9	St Arnaud
No Yes	No Yes	259 1041	41° 56′ 00° 11° 46′ 50′′	172° 11' 05" 171° 44' 15''		* *	Paenga Mt Rochfort
Yes No Yes	No No Yes	388 615 350	39° 11' 45" 37° 45' 00" 40° 58' 37"	173° 59' 20" 178° 13' 30° 175° 45' 25'		9	Pukeiti Whakaangiangi
	1					*	Otahoua
No	No	15	40° 59' 00"	174° 57' 24"		D	Paekakatiki
No	No	198	41° 02′ 47″	172° 55' 15"			Riwaka Valley
No	No	122	41° 05' 50"	175° 05' 50"	*		Akatarawa
No	No	61	41° 06′ 50°	174° 50'-50"			Titahi Bay
No No	No No	366	41° 11' 58" 41° 16' 30"	173° 23′ 11° 173° 18′ 10°			Drum duan Maitai
No :	No No	31	41° 16' 30°	173° 18' 10"			Thorndon
No	No No	92	41° 16' 30"	174° 58' 10°			Hine Rd. Wainulomata
No	No	198	41° 10° 50°	174° 45' 40"			Aro Street
No	No No	76	41° 18' 22"	174° 43' 40' 174° 47' 22°			Rodrigo Road
No	No No	56	41° 19' 40"	174° 50° 05°			Fort Dorset
No	No	395	41° 39' 15°	172° 39' 20"		2	Glenhope
No	No No	228	41° 48′ 45°	172° 23' 10"			Mangles Valley
No	No	388	41° 49' 18"	172° 13' 36"		,	Shenandoah
No	No	121	41° 32' 10"	171° 58' 35"			Seddonville
No	No	107	41° 51' 30'	171° 56' 00"		0	inangahua
Yes	Yes	853	42° 24' 10'	171° 20' 40"			Paparoa Ranges
No	No	122	39° 53′ 30″	175° 03' 54"			Wanganul
No	No.	625	40° 38' 36°	172° 38' 20"			Mt. Burnett
No	No	76	40° 55′ 09°	175° 00' 52"			Paraparaumu
No	1						
110	No	488	41° 05' 20°	172 43' 15"			Cobb Power Station

Hours of transmission.

Mon - Thurs:	Trade.	0930 - 1315	Programme.	1400 - 2300
Friday	9	0930 1315		1400 - 2400
Saturday		1200 - 1315		1400 - 2300.
Sunday				1400 - 2200

2 of 3

NEW ZEALAND PRIVATE BROADCAST STATIONS

1XA 1480 kHz 5 kw Radio Hauraki (NZ) Box 1480, Auckland. (emergency standby power available at transmitter) 1590 kHz 5 kw Radio i Ltd. 1XI Box 8504 Auckland. 1XW 930 kHz 2 kw Independent Broadcasting Co. Ltd. Box 9300, Hamilton, 1XX 1240 kHz 2 kw Radio Whakatane Ltd. Box 383, Whakatane. 2XW 1080 kHz 5 kw Capital City Radio Ltd. Box 558, Wellington. 3XA 1290 kHz 2 kw Radio Avon Ltd. Box 1290, Christchurch. (emergency standby power available at both studios and transmitter) 4XD 1430 kHz 250w Otago Radio Association

Inc. C/o Calder Mackay Co. 180 Rattray St., Dunedin.

1210 kHz 2 kw Radio Otago Ltd. 4XO Box 1210, Dunedin.

WHEN CORRESPONDING WITH

N.Z.A.R.T. **HEADQUARTERS**

always OUOTE YOUR

- Branch Number
- Membership Classification

(refer editorial)

MOUNTAIN RADIO SERVICE

1. Radio-telephones from this service are usually capable of direct communication with the Base Station, ZK1B in Christchurch, from all parts of the South Island.

2. They are available to members of the Canterbury/Westland section of the New Zealand Alpine Club, the Canterbury Mountaineering Club, the Christchurch Tramping Club and other people and organisations at the Committee's discretion.

3. All enquiries should be addressed to:

The Secretary, Canterbury Mountain Radio Service Inc.,

P.O. Box 22-342, Christchurch

or 'phone:

Paul White,

Private 325-846; business: 78-392.

Geoff Harrow,

Private: 486-614; business: 68-414.

4. The responsibility for care of the radio set rests entirely with the hiring party. The official Application Form must be completed.

5. Hire charges are \$1.00 per day or \$4.00 per week for the days the radios are in the field. A surcharge of 50 cents per day will be charged if the radios are not returned within three days of the indicated returning date. Batteries are available from the Radio Service at \$1.00 per set.

6. While every endeavour will be made to keep the schedule times, no responsibility will be accepted

by the Radio Service.

7. Although the primary value of the radios is in an emergency, daily information (such as weather forecasts) is provided, and messages are passed on.

8. Radio should be returned as soon as possible to:

Paul White.

8 Rossmore Terrace, Christchurch 2,

C/o White's Sign Service, 203A High St., Christchurch 1.

Geoff Harrow. 27 Athol Terrace, Christchurch 4.

Base Stations:

CHRISTCHURCH

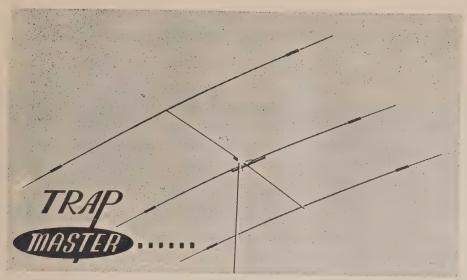
ZKIB Base, Cedric Turner, 327-609.

DUNEDIN

ZKIB101 Ron Kingston, 12 Kennilworth Street, Waverly, Dunedin. Phone 44-664.

INVERCARGILL

ZKFK Base, Bill Reynolds, 189 George Street, Invercargill. Phone 79-486.



"MOSLEY" Trap Master Antenna. TA-33-JR. 3 element tribander for 20/15/10 metre bands. Light weight design of only 20 lbs — easily handled with low cost rotators.

"MUSTANG" Similar in general design to the TA-33 JR but features larger traps and heavy hardware. Suitable for powers up to 2kW PEP.

MCQ-3B Tribander quad 20/15/10 metre. metal construction. Gamma feed for 52 ohm Co-ax cable, 35lbs weight.

MOSLEY, the rust proof antenna. All hardware is stainless steel . . . only MOSLEY

offer this quality.

FOR A TO Z IN AMATEUR RADIO EQUIPMENT

We are able to offer the ZL amateur a choice of brands and models to suit the pocket and operating require-

ments. Yes — all makes — all models . . .

Antenna include MOSLEY, Hy-GAIN, HUSTLER, G-WHIP, SWAN. Baluns by K.W. Electronics, H.Z.P. and Hy-Gain. Dummy loads by K.W. and Heathkit. Microphones by Shure and Turner Electronics keyers, speech com-

pressors both RF and audio types.

Rotators by ALLIANCE and C.D.E. to suit all size of antenna installation. Co-ax cable of all sizes and impedances.

Connectors of all types to suit. SWR bridges, antenna switches. All accessories for the amateur station.



K.W. Electronics Ltd., England. Manufacturers of a complete line of amateur radio equipment. Shown is the K.W. 108 solid state monitor scope, K.W. 107 tuning system, includes SWR/power meter, dummy load, antenna selector switch, all band tuner to match any type antenna. K.W. Ez-Ee match tuner to match any antenna to 50 or 75 ohms transmitter. K.W. 103 SWR/Power meter. Write for details of any amateur equipment . . . data sheets and prices posted by return. Please be exact so we

do send you the correct information.

DES WRIGHT LTD

19 MAIORO STREET, AVONDALE EAST, AUCKLAND 7.

PHONE 677-189



ASSISTANT CONTEST MANAGER-PETER KENNY ZL2QK

Applying for an Award

When applying for an award, whether through NZART or through an Overseas Society, courtesy demands that you observe the following points:—

- 1. Write a letter of application for the award.
- 2. Supply a checking sheet with the call-signs, date of QSO, etc., of the cards submitted.
- 3. Write your own call-sign, name and address legibly—preferably PRINT—on checking sheet.

4. Enclose stamps or Reply Coupons for the return postage on your cards.

Attention to these points makes the task of the fellow at the receiving end so much easier.

NOTE: ZL applicants for WAP, WAD, WAZL, etc., etc., should send details direct to the Awards Manager, while Overseas applicants may post via NZART, Box 489, Wellington, or direct to ZL2GX.

NZART AWARDS ——

1. The usually accepted rules apply to all NZART Awards, especially those relating to *fair play* and good operating ethics.

2. Endorsements are available for PHONE and for CW (Note that SSB is recognised as phone and not as a separate identity) as well as for different bands where applicable.

3. All confirmations must date from November

4. Established codes apply — e.g. — applications may be certified by one other amateur in which case no QSL cards need be sent with application; repeat awards are issued following further qualifying requirements for that award; no charge to blind or badly handicapped applicants; special endorsements covering bands or operating periods of time as requested by applicant; all awards are available to SWLs.

When QSLs are sent, return postage must be forwarded.

WAP (Worked All Pacific) -

Confirmations required from 30 different "Oceania Countries" from the WAP List — No

Charge. Because *prefixes* change from time to time, no prefixes are given in the last of eligible countries. The point of eligibility is the COUNTRY — not the

prefix.

**** Port, Timor; Philippines; Adelie Land; New Caledonia; French Oceania; Wallis Island; New Hebrides; Baker, Howland, American Phoenix Island; East Carolines; West Carolines; Mariana Island; Bonin & Volcano Island (now Ogasawara Island); Marcus Island (now Minami Island); Guam: Hawaiian Islands; Johnston Island; Midway Island; Palmyra Island; American Samoa; Wake Island; Marshall Island; Java; Sumatra; Borneo; Celebes; West Irian; Australia; Lord How Island; Willis Island; Macquarrie Island; New Guinea; Norfolk Island; Papua; Nauru Island; Christmas Island; Coos Island; Gilbert Island; Ellice Island; Br. Phoenix Island; Fiji Island; Fanning & Washington Island; Folomon Island; Tonga; Pitcairn Island; Sarawak; Brunei; North Borneo; Northern Cook Islands; Southern Cook Islands; Samoa; Tokelau Islands; Kermadec Islands; Niue Island; New Zealand; Chatham Island; Auckland & Campbell Islands; Antarctica (ZL5 only).

TEN-TEC

ALL SOLID STATE COMMUNICATIONS EQUIPMENT



Just compare these specifications with other equipment on the market — then ask the users and you too will come to the conclusion that "Ten-Tec" is for you.

ARGONAUT MODEL 505 Features all band operation 80, 40, 20, 15 and 10 with the flick of a switch. A 9 MHz crystal filter with 2.5 kHz bandwidth and 1.7 shape factor at 6/50db downpoints makes this one of the best receivers on the market at present. Automatic and reversible sideband selection, permeability tuned circuits and direct frequency readout on a clear slide rule dial make operation so easy. All circuit boards are plug-in for easy service. Operates from just 12v DC, you can operate it from lantern batteries for field day use. Power input 5 watts DC 5 watts PEP and the final amplifier is broadband 50-75 ohms press to talk. Built in SWR bridge/"S" meter. CW is a cinch too. Just switch to CW and key it for full break in operation. The receiver provides a sensitivity of $.5_{\mu\nu}$ for 10 db S+N/N with negligible dial backlash, AGC, CW side tone, offset tuning, built in speaker and provision for headphones. Weighs only 6lbs-light enough even for a pack. Available for this is a 405 LINEAR providing 100 watts input power, battery or power pack operation, push/pull broadband out put and no tuneup. What's more its impervious to antenna mismatch, has in built harmonic filters and separate power and SWR meters. Matching power supply Model 251.

Low DC potentials remove shock hazard, low internal heat extends component life. Full electronic "Break-In" enables you to monitor the frequency while transmitting. Mobile is no problem either. Just connect battery cable to car, plug in antenna and you are "on the air". Because there is no heavy AC supply to carry around weight is kept down. Designed for full rated power continuous operation even for RTTY or SSTV.

GET WITH IT — GET THE LATEST "STATE OF THE ART" EQUIPMENT" — GET "TEN-TEC"
TRITON I & II There is not enough room to tell you all about them here so write for a data sheet giving all the details. Suffice to say here that they are all solid state and respectively 100 and 200 watts. Still operate from 12-15v DC and AC power supplies available for Home Station Operation.

Physically small HWD 4½ x 13 5/8 x 13; weight 12lbs.

Prices are reasonable. Stock is available very soon. Write now for details.



P. H. ROTHSCHILD & Co. Ltd.

83 PRETORIA STREET, LOWER HUTT

Warehouse: 2 Pretoria Street.

Telephone 663-581. P.O.Box 30170 Telegrams:"FRANDS", Lower Hutt

WAZL (Worked All New Zealand)

Confirmations required from 45 different Branches of NZART—except for Overseas Applicants (for whom only 35 different Branches are required). Special endorsement when WAZL completed within a 12 month period. (No charge).

NZART Branches for WAZL

01	Ashburton	38	Taumarunui
02	Auckland	39	Tauranga
03	Western Suburbs	40	Te Awamutu
04	Cambridge	41	Thames Valley
05	Christchurch	42	Titahi Bay
06	Dannevirke	43	Waihi
07		44	Matamata Radio Clu
08	East Southland	45	Waimarino
09	Egmont	46	Wairarapa
10	Franklin	47	Waitara
11	Gisborne		Wanganui
12	Hamilton	49	Westland
13	Hastings	50	Wellington
14	Hawera	51	Eastern Bay of Plent
15	Hawke's Bay Central		Wairoa
16	Horowhenua	53	Te Puke
17	Huntly	54	Patea
18	Hutt Valley	55	Waitomo
19	Inglewood		Hornby
20	Manawatu		Tokoroa
21	Manukau		Helensville
22	Marlborough	59	Mangakino
23	Marton		Taupo
24	Motueka		Central Otago
	Napier		Reefton-Buller
	Nelson		Upper Hutt
27	New Plymouth	64	North Otago
28	Northland	65	Papakura
29	North Shore	66	Auckland VHF
30	Otago	67	Kawerau
31	Pahiatua	68	North Canterbury
32	Rahotu Coastal	69	Kapiti
33	Rotorua	70	Feilding
34	South Canterbury	71	Rodney
35	South Otago	72	Opotiki
00	NOWALL OWNED	,	- P

73

74 Wn. VHF.

36 South Westland

37 Southland

NZA - New Zealand Award

Available to all radio amateurs other than ZL. Requirements:

35 confirmations from ZL1.

plus 35 confirmations from ZL2.

plus 20 confirmations from ZL3.

plus 10 confirmations from ZL4.

plus 1 confirmation from a ZL "territory"—

either from N.Z. Antarctica, Chatham Is.; Kermadec Is.; or Campbell Is. This one confirmation may be substituted by 20 ordinary ZL confirmations if desired.

This makes a minimum of 101 confirmations which should be dated from 8th December, 1945. (No charge).

W.A.D. (A VHF Award)

Confirmations required on any VHF band (or mixture of VHF bands) from ZL1, ZL2, ZL3, ZL4. (No charge).

V.H.F.C.C. V.H.F. CENTURY CLUB

100 points required from QSO's with ZL stations on the following basis:

56 mcs, band contacts count 1 point.

144 mcs. band contacts count 3 points.

420 mcs. band contacts count 6 points.

(Further bands may be added in the future).

The same station may be claimed **once** on any one band but may be claimed repeatedly on **different** bands.

Endorsement stickers available for 200, 300, 400, 500 points. (No charge).

NZC — New Zealand Countres

Basic award requires confirmations from 20 different N.Z. Counties. Stickers for 40, 60, 80, 100 counties with special certificate for all 112. Contacts must date from November 1945.

Costs: Initial certificate with any endorsements — 25c (3 IRC) — or if sent overseas by airmail \$1. Endorsements 10c (2 IRC). Checking Sheets are available for 10c (2 IRC) — these are returned to applicants to retain as a record and use for further endorsements, etc. The operator on a County DX-pedition may claim that County for his own NZC credit. All applications to ZL2GX.

"ZL-71" AWARD

Work 50 different ZL stations during 1971 with at least one from the four areas (ZL1, ZL2, ZL3, ZL4) and send certified list of contacts with 3 IRC or 25 cents in stamps from the country of origin to Awards Manager ZL2G.

"ZL-72" AWARD

Overseas stations work 50 different ZL stations during 1972; ZL stations work 100 as follows: 35 ZL1, 35 ZL2, 20 ZL3, 10 ZL4 during 1972. Certified list with 3 IRC or 25 cents in stamps to Awards Manager ZL2GX.

"ZL-73" "ZL-74" etc.

Rules as for ZL-72 except ZL and/or ZM are acceptable. Certificate will be rather unusual but appropriate. All applications to ZL2GX.—(G.C.R.).

"ZLA" AWARD

Confirmations required from Auckland City ZL1, Wellington City ZL2, Christchurch City ZL3, Dunedin City ZL4, Antarctica ZL5, Campbell Island, Chatham Island, Kermadec Island. Applications must send certified list that QSLs have been sighted (do NOT send QSLs) to Awards Manager ZL2GX with 3 IRC or 22 cents in stamps from country of applicant. Specially produced certificate.

COOK-BICENTENARY AWARD

For contacts with 50 stations using the ZM prefix during 1969/70. Certified list as for other awards.

"5 x 5" (FIVE BY FIVE)

This Premier Award has been instituted to recognise the increasing interest in 5 Band DX operation. The initial award requires that the same station be contacted on 5 bands repeated with 5 different DXCC countries. First endorsement after a further 5 has been contacted (total of 10) with the 20 endorsement requiring another 10 and so on to 100. Certified list with full qso data and fee of \$1 which includes all endorsements. Certificate is outstanding and is overprinted in embossed gold. Contacts must date from 1945. Applications to ZL2GX.

TIKI AWARD

Work five different ZLs, each on FIVE different bands dating post war. 3 IRC or 25 cents in stamps — to ZL2GX.

ZL1 AWARD

Basic Award required contacts (not confirmations) with 125 different ZL1 stations dating post war. Endorsements for 175 and 250.

ZL2 AWARD

Basic Award requires contacts (not confirmations) with 100 different ZL2 stations dating post war. Endorsements for 175 and 250.

ZL3 AWARD

Basic Award requires contacts (not confirmations with 50 different ZL3 stations dating post war. Endorsements for 75 and 100.

ZL4 AWARD

Basic Award requires contacts (not confirmations) with 25 different ZL4 stations dating post war. Endorsements for 35 and 50.

Note: Cost of ZL1/2/3/4 Certificates is 25 cents each (or 3 IRC) with any endorsements. Further endorsements will cost 10 cents of 1 IRC UNLESS a new certificate is required instead of the "sticker", in which case the cost is 25 cents. On issue, certificates will be endorsed for band/mode as requested and for any yearly period of time (Jan. thru Dec.). Such endorsements are of course, available to applicants at any time after the initial award has been made. ZL or ZM or combination is OK. APPLICATIONS with list to ZL2GX.

"MIA" MINOR ISLANDS AWARD

For contacts with minor islands off the NZ coast — e.g. Kapiti Island; Portland Island; Great Barrier Island; Little Barrier Island; Waiheke Island; D'Urville Island; Rangitoto Island; Kawau Island; Motutapu Island; etc. from which FIVE contacts are required. Certified list with 3 IRC or 25 cents in stamps to ZL2GX. N.B. So called "islands" in Auckland area which are connected to mainland by a causeway are not eligible.

"CJC" CAPTAIN JAMES COOK AWARD

To perpetuate the memory of this world famous navigator and seaman — in three classes: 1. Basic "Sailor Class" requires contacts with — G in Yorkshire; F08; ZL2; VK2; KH6... For "Officer Class", "Sailor Class" contacts as well as ZL1, ZL3, ZL4, VK3, VK4, VK9 New Guinea, and any Antarctica station... For "Command Class", as for "Officer Class" as well as any five of the following — VE2, VO, VR5, YJ8, FK8, CE8, KL7. Certified list (confirmations not required) with 3 IRC or 25 cents in stamps to ZL2GX.

OTHER AWARDS NOT OFFICIAL NZART

AUCKLAND BRANCH CERTIFICATE

Available to overseas stations only. Work 15 members of Auckland Branch (No. 02) since 1st January 1957. List of stations with date of contact to ZL1TB. Applicants do not have to have QSL Cards from stations on list. Free of charge.

MANAWATU AWARD

Available only to overseas amateurs who contact 5 stations in the Manawatu (Palmerston North area). Send list of stations worked (qsls not required) to ZL2AFT, 431 Albert Street, Palmerston North.



"HY-GAIN" ANTENNAE ---

SOON EX STOCK!!

We told you there was more to an Antenna than pretty looks SOON you will be able to buy them ex stock. Not all of them of course, we don't have that much licence, but certainly the popular types. SOME ARE IN STOCK RIGHT NOW. See below.

18AVT/WB

Most popular

of all.

Wideband

vertical

80 thru 10

easy to

install,

reasonably

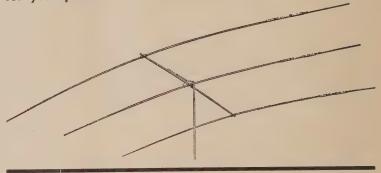
priced,

takes

little room.

LET'S JUST HAVE A LOOK AT THESE AGAIN

TH3Jr Popular 3 element beam 10, 15, 10 metres. Fully trapped, light weight, robust construction. Budget priced for your pocket.



2 METER AERIALS 3 EL
COLINEAR GROUND PLANE GPG2
GAIN: 3.4db 52 ohms coax feed
VSWR less than 1.5:1
VSWR 1.5
4ft radiator length
19in. radials.
3 EL
GAIN 9db
FRONT TO
VSWR 1.5
POWER H.
Impedance

3 ELEMENT MODEL 23
GAIN 9db
FRONT TO BACK RATIO 20db
VSWR 1.5:1
POWER HANDLING 1kW
Impedance 50 ohms
Weight only 3.2lbs.

8 ELEMENT MODEL 28
GAIN 14.5db
FRONT TO BACK RATIO 25-30db
VSWR 1.5:1
POWER HANDLING 1kW
Impedance 50 ohms
Weight only 7lbs

BUY THE BEST - BUY HIGH GAIN

TEAM UP YOUR AERIAL WITH A CDE ROTOR.

TWO MODELS TO CHOOSE FROM. WRITE FOR DETAILS.

TH6DXX—Daddy of them all. 6 element 20, 15, 10 metres. It's a beauty and well worth the money. Ask those who use one.

Rotors available also - Baluns etc.

Ex Stock Now: 18AVT/WB — TH6DXX



HY-QUAD — NOTHING ELSE TO BUY. ONLY ONE FEED LINE FOR ALL BANDS — 20, 15, 10. Spreaders broken up into non-resonant lengths by cycolac insulators stranded aluminium wire, individually tuned gamma matches for each band, no inter-action.

For those who want the best.

NOTE

Because of new exchange rates Prices are LOWER

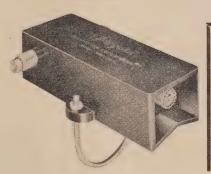
lower

lower!!!

Now compare a **HEATHKIT** with what else is on the market and see how it stacks up. Remember Heath still uses transmitting tubes in its transmitters for reliable long-life service.

BALUN BN-86

Can be used with any beam antenna 3 thru 30 MHz.
Use it also on doublets, etc.



Mobile Whips

"HAMCATS"

Solid construction, separate coil and whip assemblies for each band. Nominal 52 ohms impedance on all bands. Fibreglass covered coils, swivel top. Made in the best HyGain tradition.

Ask for more details - tell us which you want and we'll quote you

When you think of aerials — think of HY-GAIN — buy from



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83 PRETORIA STREET, LOWER HUTT P.O. BOX 30170
WAREHOUSE: 2 PRETORIA STREET

Telephone 663-581

Telegrams: "FRANDS", Lower Hutt

CHRISTCHURCH AWARD



Requirements: Christchurch amateurs 25 different stations! rest of ZL—15 stations; VK—10 stations; rest of world—5 stations. Cost: ZL's 50 cents; others US \$1.00 or equal. Applications to Awards Manager, Box 1733, Christchurch.

BAY OF PLENTY AWARD

Overseas stations contact 5 stations in the area (Opotiki, Rotorua, Tauranga, Whakatane) while ZL require 10 or 5 on VHF. Send certified list with 8 IRC or 50 cents to ZL1AH, Welcome Bay, R.D. 5, Tauranga.

WELLINGTON AWARD

By Chapter 67 CHC as follows: ZL stations require 25 contacts with at least two from each of the four areas of Wellington City: Lower Hutt/Petone, Upper Hutt, West Coast Districts (Titahi Bay, Porirua, etc., etc.). VK/ZK and nearby areas require 10 contacts with at least ONE from each of the listed areas. Rest of World require five contacts with at least ONE from each of three areas listed. Applications to ZL2AH with four IRC or 25 cents together with certified list.

GISBORNE AWARD



Requirements: Contacts after 1 January 1969 as follows: Gisborne amateurs—10 different stations; ZL—4 stations; rest of world—2 stations. Cost 25 cents or 3 IRC. Apply to ZL2GX.

D.X.C.C.

Effective 1 July 1974, all new applications for DXCC must be submitted with \$3.50 (U.S.) or equivalent IRC to cover return postage on cards (registered first class), as well as DXCC lapel pin and certificate.

HEATHKIT

YOU KNOW HEATHKIT HAS THE ANSWERS . . For all band operation the now well known HW101 Transceiver or the top of the line SB102. Get the Accessories as well . . . A Linear or the Test Equipment: SB650 DIGITAL FREQUENCY COUNTER

SB610 SPECTRUM MONITOR SB620 SPECTRUM ANALYZER SB600 SPEAKER HM102 WATTMETER/SWR BRIDGE HM2102 VHF WATTMETER HM2103 RF LOAD/WATTMETER

HN31 DUMMY LOAD PM2 POWER METER

Or how about some fine two meter gear. All solid state compact designs, duty free prices.



HW-202 SPECIFICATIONS — RECEIVER — Sensitivity: 12 dB SINAD* (or 20 dB of quieting) at .5 µV or less. Squelch threshold: 0.3 µV or less. Audio output: 3 W at less than 10% total harmonic distortion (THD). Operating frequency stability: Better than ±.0015 %. Image rejection: Greater than 45 dB. Spurious rejection: Greater than 60 dB. First IF frequency: 10.7 MHz ±2 kHz. Second IF frequency: 455 kHz on 300 to 3000 Hz nominal. Modulation: Deemphasis: —6 dB per octave from 200 to 3000 Hz nominal. Modulation acceptance: 7.5 kHz minimum. Spurious output: 10 watts minimum. Spurious output: Below —45 dB from Carrier, Stability: Better than ±.0015%. Oscillator frequency: 6 kHz, approximately. Multiplier factor: X2 at Modulation: Phase, adjustable 0.75 kHz, with instantaneous limiting. Outy cycle: 100% erating frequency range: 143.9 to 148.3 MHz. Current consumption. Receiver (squeiched): Less than 200 mA. Transmitter: Less than 2.2 amperes. Operating temperature range: 12° to 12° F (—25° to +50° C). Operating voltage range: 12.6 to 16.0 VDC (13.8 VDC nominal). Dimensions: 23% H x 83½ W W x 9½ 0 D.

*SINAD = Signal + noise + distortion

Noise + distortion

Heathkit HW-202 2-Meter Transceiver

TO INCREASE THE RANGE HOW ABOUT A LINEAR?



Kit HA-202, 4 lbs.

HA-202 SPECIFICATIONS — Frequency range: 143-149 MHz. Power output: 20W @ 5 W in, 30W @ 7.5W in, 40W @ 10 W in, 50W @ 15W in. Power input (rf drive): 5 to 15W. Input/output impedance: 50 ohms, nominal. Input VSWR: 1.5 Imax. Load VSWR: 3.1 max. Power supply requirements: 12 to 16 VDC, 7 amps max. Operating temperature range: -30° F, to $+140^\circ$ F. Gimensions: 3° H x 44% $^\circ$ W x 55½" D.

All These and Many More . . . Heathkit Makes Equipment For All Your Requirements. Write For A Catalogue And Detail Your Requirements. From the Friendly Firm



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Warehouse: 2 Pretoria Street.

Telephone 663-581. P.O.Box 30170 Telegrams: "FRANDS", Lower Hutt

PANIA OF THE REEF

An old Maori legend tells how Pania, lured by the siren voices of the sea people, swam out to meet them. When she endeavoured to return to her lover, she was transformed into the reef which now lies beyond the breakwater at Napier, New Zealand.



Award Requirements:-

- ZL and VK stations work 12 members of W.A.R.O., DX stations work 5 members, after 1st June, 1969, and to include one each from ZL 1, 2, 3 and 4.
- 2. Net contacts do not qualify.
- 3. SSB, AM, CW QSOs qualify, any band.
- 4. To apply for Award send QSL cards and list to Custodian, Thelma Souper, ZL2JO, 64 Kirk Street, Otaki, with sufficient postage for the return of QSL cards.
- 5. All contacts must be from the same QTH.

"July nets were very good with a gratifying number calling in on S.I. and National nights. Thelma has had a contact with Darleen from her new QTH and callsign is confirmed. We have received the following interesting letter from Darleen.

> PLEASE QUOTE YOUR BRANCH NUMBER AND MEMBERSHIP STATUS WHEN CORRESPOND-ING WITH N.Z.A.R.T. HEAD-QUARTERS.

NELSON MOBILE AWARD

Points system with several alternate methods of obtaining the award for both mobile stations and fixed stations.

1. Mobile to Fixed, 100 points required (must include 2 Branch 26 contacts).

2. Mobile to Mobile, 50 points required (must include 1 Branch 26 contact).

3. Fixed to Mobile, 100 points required (must include 1 Branch 26 contacts).

4. Worked Mobiles in 40 N.Z. Counties (must include 1 from Waimea).

5. Worked Mobiles from 35 N.Z. Branches (must include 1 from Branch 26).

6. Mobile station to work 35 Prefixes.

One point for a contact in own radio district, two points in adjacent district and three points in alternative or DX. First two Branch 26 contacts count 4 points each. Duplicate contacts not allowed except in County section.

QSL's not required. Two Amateurs should verify the log submitted. Refer to full details in July 1969 *Break-in*. CHC rules apply.

\$1 to Jim Eyles, ZL2VZ, 30 Surrey Road, Richmond, Nelson, Additional endorsements 25 cents.

REEFTON-BULLER AWARD

Basic Award requires contacts with any 5 Branch members; Merit Award requires in addition to Basic that ZLs contact — one Branch 62 Mobile, one XYL, and the Club Station ZL3WP while overseas stations contact any one of those mentioned. Special merit for contacts made in 1973 between 1 October and 31 December. No QSLs required. Send certified list with 35 cents to ZL2GX. List of members, etc., available from Branch 62 secretary.

NAPIER AWARD

For contacts from 1 January 1974 in three classes — BASIC AWARD requires contacts with 5 different Napier stations with one on CW; For GOLD STAR you must contact Club station ZL2ABJ during 1974; For DELUXE AWARD a further (after Basic Award) three Napier Stations on phone and a further two on CW. Net contacts

NOW is the time to write articles for

BREAK-IN

Nothing is TOO BIG

Nothing is TOO SMALL

do NOT qualify. QSLs not required - Certified list with 3 IRC or 25 cents in stamps to ZL2AFZ, Box 4030, Napier.

CHC AWARDS

For details of these write to CHC secretary ZL1QW who will supply full data sheets for the

1. WORK NZ MEMBERS of CHC - ZLs contact 25 members; Overseas contact 15, each with

the four districts represented.

AUCKLAND REGIONAL AWARD — Essential to use special Check List/Application form cost 5 cents (1 IRC).

3. OCEANIA ITU/COUNTRIES & CAPITAL CITIES AWARD — similar to WAP. For above

obtain check list from ZL1QW.

N.Z.A.R.T. CONTESTS

THE SANGSTER SHIELD

The Sangster Shield was presented in 1927 by Mr R. Sangster to the amateurs of New Zealand for competition each year, and is won by the most efficient QRP (low power) CW station complying with the rules. The contest is held on the 80 metre band. Section for transistor equipment.

THE MEMORIAL SHIELD

This contest is held by NZART in commemoration of those amateurs who were killed on active service during World War II. The contest is open to both phone and CW stations on the 80 metre

A miniature of the Memorial Contest Cup is awarded to the winning station each year.

H. P. V. BROWN CUP

This trophy was donated by Mr H. P. V. Brown (ZL3CG) for competition on the VHF bands. For several years the contest took the form of a biannual marathon on the 6-metre band. The trophy is now awarded to the ZL making the highest score in the annual Ross Hull Memorial VHF Contest, which is organised by the Wireless Intitute of Autralia. This contest is usually run during December/

FREQUENCY MEASURING CONTEST

An annual activity for transmitting amateurs and SWL's as well. Is held during the month of June when contestants have to measure the frequency of an amateur station on 80 metres. The John McKim Memorial Trophy is presented to the contestant with the most accurate frequency meter which is home-made, while Norm Edwards Shield goes to winner of Commercial Section.

NATIONAL FIELD DAY

This contest was designed to promote AREC practice and provide Club activity while at the same time there is activity for the individual and the SWL fraternity. The contest is held in February on the 80 and 40 metre bands. Two trophies are available—the Montgomery Cup for stations using high power and the W.H. Hall Memorial Trophy for stations using 5 watts or less.

THE VK-ZL INTERNATIONAL DX CONTEST

This contest is sponsored by NZART in conjunction with the Wireless Institute of Australia and is for international DX on all amateur bands. The contest is normally held in first two week-ends of October annually, and has both phone and CW transmitting and also a receiving section.

OVERSEAS AWARDS

There are hundreds of Awards. Most of these are listed in the "DIRECTORY OF AWARDS" published by K6BX, 3212 Mesa Verde Road, Bonita, California 92002, USA at a cost of \$4.00 (copies available from CHC Secretary,

3212 Mesa Verde Road, Bonita, California 92002, USA at a cost of \$4.00 (copies available from CHC Secretary, ZL1QW. Most overseas awards can be certified by NZART Awards Manager so the QSL's don't have to be sent overseas BUT, always send a FULL checking list with all QSO data, etc., on which can be written the certification and which can be sent as the application. (ARRL awards cannot be certified).

ALWAYS SEND SUFFICIENT RETURN POSTAGE for QSL's, etc. Print name and address on each sheet of paper used.

WAC-WORKED ALL CONTINENTS

Issued by IARU only through affiliated societies. Applica-tions from financial members of NZART only must be made through the Awards Manager accompanied by checking list; QSL cards from 6 continents; and return postage. Endorse-ments are available when all contacts are made—

- (1) On 160 metres. (2) On SSB. (3) On 6 metres.
- (4) On 80 metres.

NOTE: This award is **not** available to non-member: NZART and is not available direct from IARU or ARRL. non-members of

A-1 OPERATOR CLUB

The basic aim of the A-I Operator Club is to promote good operating in the amateur bands. To become a member one must be nominated by at least two operators who already belong. Every amateur should strive to merit nomination by following standard operating practice, by observing the rules of good phone operating, and by making his CW as clean and accurate as possible. An attractive certificate is awarded to each amateur who qualifies for membership. Note: This award is sponsored by the ARRL. Several ZL amateurs are members. Strive to merit nomination—you never know who may be listening. Similar awards are: TOPS; FOC; HSC.

RSGB AWARDS

N.B.: South Africa contacts must date before 1 June 1961.

- Send to NZART Awards Manager for RSGB Awards application form for all RSGB Awards—this lists all acceptable call areas.
- Return completed application form to NZART Awards Manager with QSL cards for certification. Cards and list will then be returned.
- Post application to RSGB with British Postal Note for 7/for each award.

WBC-WORKED BRITISH COMMONWEALTH.

Confirmations required from British stations in each of the five recognised continental areas-America; Asia; Oceania; Africa; Europe.

BCRTA-BRITISH COMMONWEALTH RADIO TRANS-MISSION AWARD.

Confirmations required from 50 call areas in the Commonwealth. Endorsements available for modes/bands.

BCRRA-BRITISH COMMONWEALTH RADIO RECEP-TION AWARD.

As for BCRTA above except for SWL's only.

DXLCA-DX LISTENERS' CENTURY AWARD.

For SWL's only. 100 different countries confirmed as per RSGB Countries list.

CDXC—-COMMONWEALTH DX CERTIFICATE.

Confirmations required from 50 Commonwealth call areas on 14 mcs in addition with at least 50 call areas on bands other than 14 mcs, making a total of 100 call areas. A most attractive certificate.

FRENCH AWARDS:

For information on DDFM, DUF, DTA, DTC, DPF write to REF, 69 bd de Bercy, Paris 12 (with 1 IRC) for full information bulletin. (This can be obtained on loan from Awards tion bulletin. (T Manager ZL2GX).

(Applications for above can be certified by Awards Manager).

"CQ" MAGAZINE AWARDS

(Full rules appear in CQ Magazine for January 1969). WAZ—WORKED ALL ZONES (see CQ WAZ map in Call Book).

Confirmations required from each of the 40 zones (zone numbers are indicated beside countries in the countries checking list in this call book). Check list with full QSO data can be certified by NZART Awards Manager. Cost 8 IRC or \$1 US.

N.B. WAZ now available as a separate award for each band.

WPX-WORKED PREFIXES.

Use special application form available from NZART Awards Manager. Certificates issued for MIXED-400; CW-300; PHONE 300; SSB 200 with endorsements for each additional 50 pre-fixes. Band endorsements available as follows—1.8 mcs 35; 3.5 mcs 150; 7 mcs 250; 14 mcs 300; 21 mcs 300; 28 mcs 250. Continental endorsements available as follows: North America 126; South America 88; Europe 146; Africa 80; Asia 68; Oceania 51. Cost 8 IRC or \$1 US.

SSB DX AWARD.

Use special application form available from NZART Awards Manager. Certificates issued for 100 different countries and endorsements for 150, 200, 275, 300, 310, 320 as well as Low Band Endorsement for 100 or more countries using any combination of 80 and 40 and 28mcs endorsement for 100 or more countries on this band. Usual rules apply and DXCC List, but deleted countries do not count. Cost is \$1 or 8 IRC. or 8 IRC.

CW DX AWARD

Rules as for SSB Award above except that all contacts must be CW.

NOTE: All CQ awards can be certified by NZART Awards

Manager.

ARRL AWARDS

WAS-WORKED ALL STATES

Send checking list with confirmations from the 50 States of the USA direct to ARRL. (Also 5 Band WAS).

DX CENTURY CLUB (DXCC)

The American Radio Relay League will issue the DX Century Club Certificate to any amateur who has worked and confirmed contact with 100 countries or more since 15th November, 1945. Endorsement stickers are provided for every 20 confirmed countries in excess of the 100 required for the initial award.

initial award.

In addition a special PHONE DXCC Certificate is available to those who submit 100 confirmations for contacts on phone. In this case it is permissible for the station being contacted to be on CW (i.e., phone to CW contacts are permissible). Endorsement stickers are also available for phone DXCC.

Note that all the rules normally applying to contests and awards apply to DXCC aspirants; operating ethics must be of a high standard; "land stations" only are eligible; stations must be contacted from the same area (radius of 150 miles); eligible countries are those listed elsewhere in this booklet.

Every month QST lists those amateurs who have been awarded certificates.

Applications should be posted direct to Communications Department, ARRL, 225 Main Street, Newington, Conn., USA, with sufficient postage for return of cards by first class registered mail. N.B.—Include checking list with cards, No charge.

5BDXCC FIVE BAND DXCC

Confirmations required from 100 different countries on FIVE different bands, with contacts to have been made on January 1, 1969 or since. Phone and/or CW may be used. Applications for 5BDXCC will be accepted only on a special form which costs \$10 US (this charge also covers return postage charges). postage charges on QSL's.

THE AMATEUR'S CODE

ONE

The Amateur is Gentlemanly He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others. He abides by the pledges given by the ARRL in his behalf to the public and the Government.

TWO

The Amateur is Loyal He owes his amateur radio to the American Radio Relay League, and he offers it his unswerving loyalty.

THREE

The Amateur is Progressive He keeps his station abreast of science. It is built well and efficiently. His operating practice is clean and regular.

FOUR

The Amateur is Friendly Slow and patient sending when requested, friendly advice and counsel to the beginner, kindly assistance and co-operation for the broadcast listener; these are marks of the amateur spirit.

FIVE

The Amateur is Balanced Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school, or his community.

SIX

The Amateur is Patriotic His knowledge and his station are always ready for the service of his country and his community.

—PAUL M. SEGAL





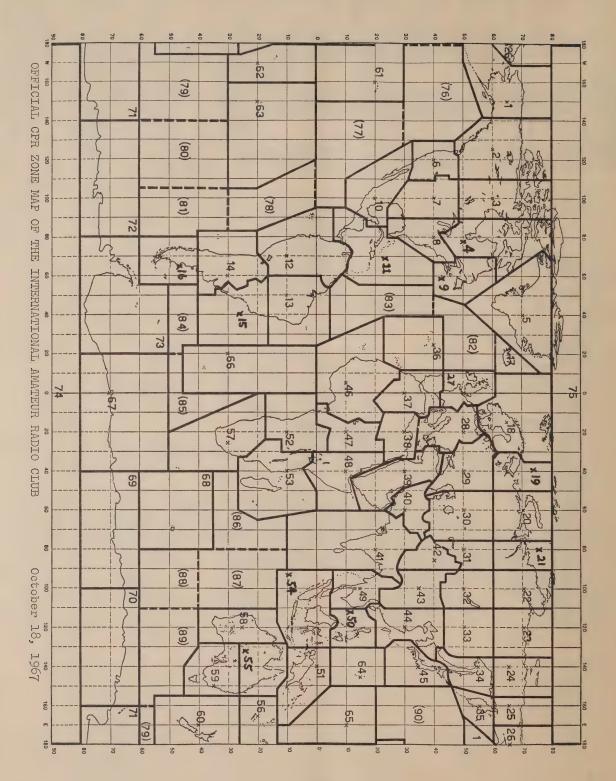
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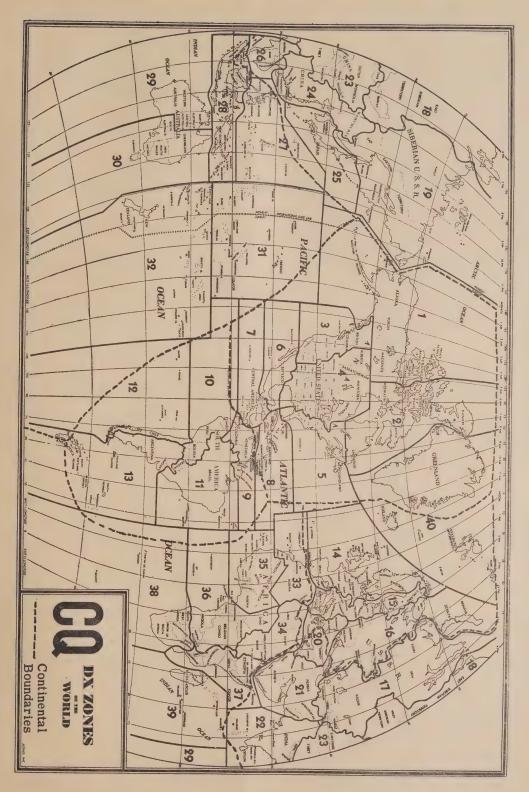
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A.R.R.L. COUNTRIES LIST . . .

The ARRL Postwar Countries List is the official standard used in connection with the DX Century Club. From time to time, changes in the list are made. Space is provided at the bottom of each page to allow for new additions. Changes are announced under DXCC Notes in QST.

10 (0 = 00)		2011
A2 (See ZS9) Botswana	FC (unofficial) Corsica	I, IT J. Italy
A3 (See VR5)	FD (See 5V)	Tale (1.1. a)
AC3 Sikkim	FE8 (See TJ)	Il ¹² (deleted) Trieste
ACA SIKKIII		I518 (deleted) Italian Somaliland
AC4 Tibet	FF4 (See TU)	
A5 (AC5 Bhutan	FF7 (See 5T)	IS, IM Sardinia
AP, S2-3 East Pakistan	FF8 (See TY)	JA, JH, KA, JR, JE Japan
AP West Pakistan BV, (C3) Formosa	FF8 (See TZ)	TD 72001 724144 0
BV (C3) Formosa	FF8 (See 5U7)	JD, KGol, KAI Ogasawara Is.
BV (C) China	FF8 (See XT)	JD, KG6I, KA1 ⁴⁴ Ogasawara Is. JD, KG61, KA1 ⁴⁵ Minami Is.
BY, (C) China		IT1 Mongolia
C2 (See VK9) Rep. of Nauru	FF8 (See 6W8)	JT1 Mongolia
C3 (See PX)	FF8° (deleted) Fr. West Africa	JX (LA-P) Jan Mayen
C9 ¹ (deleted) Manchuria	FG7 Guadeloupe	JY Jordan
CF Chile	FH8, FB8 Comoro Islands	IVI (I A D) CII I
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2, OR4, OA1, VR0, VP8, ZL5,	FK8 New Caledonia	K, W United States of America
os Amarcuca	FL8 Fr. Somaliland	
CE9AN-AZ (See VP8)	FM7 Martinique	KA (See JA)
CE0A Easter Island	FN ⁸ (deleted) Fr. India	KA1 (See JD) (KG6I)
CEOZ Juan Fernandez	FO8 Clipperton Island	KA6 (See KR6-8)
CE0X San Felix	FO8 Fr. Oceania	
CM CO Cube	FD9 C+ Diama 9 Minuslan In	KB6 Baker, Howland &
CM, CO Cuba	FP8 St. Pierre & Miquelon Is.	American Phoenix Islands
CN2 ² (deleted)	FQ8 (See TL)	
CN2, 8, 9 Morocco	FQ8 (See TT)	KC4 (See CE9AA-AM)
CP Bolivia	FO8 (See TN)	KC4 Navassa Island
CR3, 5 Portuguese Guinea	FQ8 (See TR)	KC6 Eastern Caroline Isls.
CR4 Cape Verde Islands		KC6 Western Caroline Isls.
CR5 Principe, Sao Thome	FQ8" (deleted) Fr. Equat. Africa	KG1 (See OX)
CR6 Angola	FQ8° (deleted) Fr. Equat. Africa FR7 ¹⁰ Glorioso Islands FR7 ¹¹ Juan de Nova	KG4 Cuentanama Dan
CP7 Mazambiana	FR7 ¹¹ Juan de Nova	KG4 Guantanamo Bay
CR7 Mozambique	FR7 Reunion	KG6 Guam
CR8 ³ (deleted) Damao, Diu	FR7 Tromelin	KG6I (See JD)
CR8 ⁴ (deleted) Goa	FC7 Coint Montin	KG6R, S, T Mariana Islands
CR8, CR10 Portuguese Timor	FS7 Saint Martin	KH6 Hawaiian Islands
CR9 Macao	FU8, YJ New Hebrides	ZIIC Hawahali Islahus
CT1 Portugal	FW8 Wallis & Futuna Islands	KH6 Kure Island
CT2 Azores	FY7 Fr. Guiana & Inini	KJ6 Johnston Island
CT3 Madeira Islands	G England	KL7 Alaska
CX Uruguay	GC Guernsey & Dependencies	KM6 Midway Islands
D. Commons Domesti' D. 11'	GC Jersey Island	KP4 Puerto Rico
D. Germany, Democratic Republic	GD Isle of Man	KPb Palmyra Group Tarvis Is
D Germany, Federal Republic	CI Northorn Indone	KR6, 8 ⁴⁹ (deleted) Ryukyu Islands
DU, DX Philippine Islands	GI Northern Ireland	VCAD HVO
EA Spain	GM Scotland	KS4B, HK0 Serrana Bank
EA6 Balearic Islands	GW Wales	& Roncador Cay
EAO Balearic Islanus	HA, HG Hungary	KS4 ⁵⁰ (deleted) Swan Islands
EA8 Canary Islands	HB Switzerland	KS6 American Samoa
EA946 (deleted) Ifni	HB0, HE Liechtenstein	KV4 Virgin Islands
F.A9 Rio de Oro	HC Ecuador	KW6 Wake Island
EA9 Spanish Morocco	HC8 Galapagos Islands	KX6 Marshall Islands
EA0 (See 3C) (Ceuta & Melilla)		K75
EI Republic of Ireland	HE (See HB0)	KZ5 Canal Zone
EL Liberia	HH Haiti	LA-G (See 3Y)
	HI Dominican Republic	LA-P, (See JX, JW)
	HK Colombia	LA I.G. Novyyou
E12 (deleted) Eritrea	HK Colombia HK0 Bajo Nuevo	LA, LG Norway
ET2 ⁵ (deleted) Eritrea ET3, 9E, 9F Ethiopia	HK Colombia HK0 Bajo Nuevo	LA, LG Norway LA-P, JW (See JW)
E13, 9E, 9F Ethionia	HK Colombia HK0 Bajo Nuevo HK0 Malpelo Is.	LA, LG
E13, 9E, 9F Ethionia	HK Colombia HK0 Bajo Nuevo HK0 Malpelo Is. HK0 San Andres & Providencia	LA, LG
FA (See 7X) Ethiopia France FA (See 7X)	HK Colombia HK0 Bajo Nuevo HK0 Malpelo Is. HK0 San Andres & Providencia HK0 (See KS4B)	LA, LG Norway LA-P, JW (See JW) LA (See CE9AA-AM) LU Argentina LU-Z (See CE9AA-AM)
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VK9Y Cocos Islands
VK9 (See C2)
VKON Nowfalls Island
VK9N Norfolk Island
VK9AA-MZ Papua Territory
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VP2V ²⁵ British Virgin Islands
VP2D ²⁵ Dominica
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VP3 (See 8R) VP4 (See 9Y4) VP5 (See ZF1) VP5 (See 6Y5) VP5 (See 6Y5) VP6 (See 8P) VP7 Bahama Islands VP8 (See CE9AA-AN) VP8 Falkland Islands VP8, LU-Z So. Georgia Is. VP8, LU-Z So. Orkney Is. VP8, LU-Z So. Sandwich Is. VP8, LU-Z So. Sandwich Is. VP9 Bermuda Islands VQ1, 5H1 Zanzibar VQ2 (See 9J2) VQ3 (See 5H3) VQ4 (See 5Z4) VQ5 (See 5X5) VQ6 ²⁶ (deleted) British Somaliland VQ8, 3B6-7 Agalega & St. Brandon VQ8, 9 Chagos Islands VQ8, 3B8 Mauritius VQ8, 3B9 Rodriguez Island VQ9 Begroches
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VP3 (See 8R) VP4 (See 9Y4) VP5 (See ZF1) VP5 (See GY5) VP5
VP3 (See 8R) VP4 (See 9Y4) VP5 (See ZF1) VP5 (See GY5) VP5
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VR3 Fanning & Christmas Isls.
VR4 Solomon Islands
VR5 (A3) Tonga Islands
VR5 (A3) Tonga Islands
VR6 Pitcairn Island
VS1, 9M4, 9V1 ²⁷ Singapore
VR6 Pitcairn Island VS1, 9M4, 9V1 ²⁷ Singapore VS1, 9M2 (See 9M2, 4)
VS2 (See 9M2)
VS428 (doloted)
VS4 (deleted) Sarawak
VS4 ²⁸ (deleted) Sarawak VS4, ZC5 (See 9M6, 8)
VS5 Brunei VS6 Hong Kong VS9A, VS9P. VS9S; 70
VS6 Hong Kong
VS9A, VS9P, VS9S: 70
Caralla Man
South Yemen
VS9H ⁴⁷ (deleted) Kuria Muria Is.
VS9K Kamaran Is. VS9M (See 8Q)
VS9M (See 8O)
VS90 (See MP4M)
VU Andaman & Nicobar Isls.
VUIndia
India
VU India VU Laccadive Islands
w (See K)
W (See K) XE, XF, 4A, 6D
XP (See OX)
XP (See OX) XT ⁸⁰ Voltaic Rep. XU Cambodia
Al Voltaic Rep.
XU Cambodia
XV5 (See 3W8)
XW8 Laos
XZ2 Burma
VA Durma
YA Afghanistan YB (See 8F)
IB (See 8F)
YB (See 8F) YI Iraq YJ (See FU8) YK Svria
YJ (See FU8)
YK Syria YN, YN0, HT Nicaragua
YN, YNO, HT Nicaragua
YO Rumania
YO Rumania YS Salvador
YS Salvador
YU, YT Yugoslavia YV, 4M Venezuela
YV. 4M Venezuela
YV0 Aves Island
ZA Albania
ZB1 (See 9H1)
ZB2 Gibraltar
ZC3 (See VK9)
ZC3 (See VK9) ZC4 (See 5B4)
ZC5 (See 9M6 8)
ZC5 ²⁸ (deleted) British N. Borneo ZC6 ³¹ (deleted) Palestine
7C631 (deleted) British 11. Borney
ZD1 (See 9L1)
ZD2 (See 5N2)
ZD3 The Gambia
ZD4 (See 9G1) ZD4 ³² (deleted)
ZD4 ³² (deleted) Gold Coast
ZD5, ZS7, 3D6 Swaziland
ZD6 (See 7Q7)
ZD7 St. Helena
ZD8 Ascension Island
ZD8 Ascension Island ZD9 Tristan da Cunha &
Gough Island
7F Dhalain
ZE Rhodesia ZF1, VP5 Cayman Islands ZK1 Cook Islands ZK1 Manihiki Islands
ZF1, VP5 Cayman Islands
ZK1 Cook Islands
ZK1 Manihiki Islands
ZK2 Niue
ZK1 Manihiki Islands ZK2 Niue ZL/A Auckland & Campbell Isls.
ZL/C Chatham Islands
ZL/K Kermadec Islands
ZL, ZM New Zealand
, and a sound

ZL5 (See CE9AA-AM)
ZM6 (See 5W1)
ZM7 Tokelaus
ZP Paraguay
ZP Paraguay
ZS1, 2, 4, 5, 6 South Africa
ZS2 Prince Edward &
Marion Islands
ZS3 Southwest Africa
ZS7 (See ZD5)
ZS8, 7P8 (See 7P8)
1M ⁵¹ (deleted) Minerva Reefs
1S (unofficial) Stratly Is.
3A Monaco
SA Wionaco
3B (See VQ8)
3C (See EA0) Equatorial Guinea
3C0 Annobon
3D2 (See VR2)
3D6 (See ZD5)
3V8 Tunisia
3V8 Tunisia 3W8, XV5 Vietnam 2V (7C)
3W8, XV5 Vietnam
3A, (7G) Rep. of Guillea
3Y, LA-G Bouvet Is.
3Z (See SP)
4A (See XE)
4M (See YV)
4S7 Ceylon
4U I.T.U. Geneva
4W Yemen
4W Yemen

4X. 4Z	Israel
5A	Libya
5R4 7C4	(Cyprus
5H1 (See VO1)	
5H3. VO3	Tanganyika
5N2, ZD2	Nigeria
5R8, FB8	Malagasy Rep.
5T ⁸⁸	Mauritania
5U7 ⁸⁴	Mauritania Niger Rep.
5V	Togo Rep.
5W1, ZM6	Somoa
5X5, VQ5	Uganda
67/1 1/11/1	Kenva
6D (See XE)	Somali Rep. Senegal Rep. Jamaica
601, 2, 6	Somali Rep.
6W8, FF8 ⁸⁵	Senegal Rep.
6Y5, VP5	Jamaica
7G1 (see 3X)	
70 (See VS9A)	
7P8, ZS8	Lesotho
707. ZD6	Malawi
7X. FA	Algeria
77. (See HZ.)	
8F PK. YB ³⁶	Indonesia
8J (See CE9AA-	AM)
8P. VP6	AM)Barbados
80 VS9M	Maldive Islands
8R, VP3	Guvana
874	Saudi Arabia/Iraq
021	Dance salabia, and

8Z5 (See 9K3) 9A1 (M1) San Marino
975 (See OK3)
0A1 (M1) San Marino
9A1 (M1)
9G1, ZD4 ⁸⁷ Ghana
9H1, ZB1 Malta
9J2, VQ2 Zambia
9K2 Kuwait
9K2 Kuwait 9K3, 8Z5 ⁴⁸ Kuwait/Saudi Arabia
Neutral Zone
9L1, ZD1 Sierra Leone 9M2 ²⁸ (deleted) Malaya 9M2, 4 ⁸⁸ West Malaysia
9M2 ²⁸ (deleted) Malaya
9M2, 4 ⁸⁸ West Malaysia
9M4 (See VS1)
9M6, 8 ⁸⁸ East Malaysia
9N1 Nepal
9N1
9S489 (deleted) Saar
$9S4^{s_0}$ (deleted) Saar $9U5^{4_0}$ Burundi $9U5^{4_1}$ (deleted) Ruanda-Urundi
OU541 (deleted) Puanda-Urundi
9V1 (See VS1) 9X5 ⁴⁰
9X5 Kwanua
9Y4, VP4 Trinidad & Tobago
Abu Ali; Jabal at Tair
—48 Blenheim Reef
— ⁴³ Geyser Reef
- (deleted) Maria Theresa

...... IMPORTANT DXCC NOTES

(1) Only contacts dated before Septem-r 16, 1963 will count for this country. (2) Only contacts dated before July 1, 1960 will count for this country.

(3) Only contacts dated before January 1962 will count for this country. (4) Only contacts dated before January 1, 1962 will count for this country.

(5) Only contacts dated November 14, 62 or before will count for this coun-1962

(6) Only contacts dated August 6, 1960 or before will count for this coun-

(7) Only contacts dated before December 21, 1950 will count for this country. (8) Only contacts dated before November 1, 1954 will count for this country.
(9) Only contacts dated August 16, 1960 or before will count for this coun-

1960 or periore will country.

(10) Only contacts dated June 25, 1960 or after will count for this country.

(11) Only contacts dated June 25, 1960 or after will count for this country.

(12) Only contacts dated before April 1, 1957 will count for this country. April 1, 1957 and after count as Italy.

(13) Only contacts dated June 30, 1960 or before will count for this country.

Only contacts dated before May 1, 1963 will count for this country. (15)Only contacts made before May 1,

1963 will count for this country.
1963 will count for this country.
1161 Only contacts dated August 13,
1960 or later will count for this country.
1170 Only contacts dated August 15,
1960 or later will count for this country.
1181 Only contacts dated August 17,
1960 or later will count for this country.

(19) Only contacts dated August 11 1960 or later will count for this country.
(20) Only contacts dated August 7, 1960 or later will count for this country.

(21) Only contacts dated August 1, 1960 or after will count for this country. (22) Only contacts dated June 20, 1960 or later will count for this country.

(23) Only contacts dated June 30, 1960 or before will count for this country. July 1, 1960 and after count as European Russian S.F.S.R.

(24) Newfoundland/Labrador DXCC credit will be given if VO contact was made prior to April 1, 1949.

(25) All contacts with VP2 stations made prior to June 1, 1958 will be credited for DXCC on basis of Windward Islands and Leeward Islands only. Effective from June 1, 1958 contacts made with stations in what was previously listed as Leeward and Windwards will be gradited on the and Windwards will be credited on the following basis. If credit has already been given for a station in the Leewards further credit cannot be given for that particular island. For example, if Lee-wards credit was obtained with VP2MY in Montserrat, no further credit can be In Montserrat, no further credit can be claimed for Montserrat. A credit given for VP2LU on St. Lucia towards Windwards will count as St. Lucia and no further credit can be claimed for St. Lucia. On the other hand, a contact with VP2KM made on June 1, 1958 or after, can be claimed as credit for St. Kitts or a contact with VP2GC made on June 1 or after can be claimed as credit for or after can be claimed as credit for Grenada.

The islands are classified as follows:— Leewards: Anguilla; Antigua and Bar-ida; Br. Virgins; Dominica; Montserrat;

buda; Br. Virgins; Dominica; Montserrat, St. Kitts, Nevis. Windwards: St. Lucia; St. Vincent; Grenada and Dependencies.

(26) Only contacts dated June 30, 1960 or before will count for this coun-

(27) Only contacts dated September 15, 1963 or before and after August 8, 1965 will count for this country.

(8) Only contacts dated September 1963 or before will count for this (28) country.

(29) Only contacts made before November 29 1967 will count for this country; contact made December 1 1967 or after counts as Muscat and Oman.

(30) Only contacts dated August 6 1960 or later will count for this country.
(31) Only contacts dated July 1 1968
or before will count for this country.

(32) Only contacts dated March 5 1957 or before will count for this country.

(33) Only contacts dated June 20 1960

or later will count for this country.

(34) Only contacts dated August 3 1960

or later will count for this country.
(35) Only contacts dated June 20 1960

or after will count for this country.
(36) Only contacts dated May 1 1963

or later will count for this country.
(37) Only contacts dated March 5 1957

or after will count for this country. (38) Only contacts dated September 16 1963 or later will count for this country.

(39) Only contacts dated before April 1957 will count for this country; after 1 1957 will count for this country; after this date will count as Germany. (40) Only contacts dated July 1 1962

or after will count for this country. (41) Only contacts made between July 1960 and July 1 1962 will count for

this country.

(43) Only contacts made after May 4 1967 will count for this country.

(44) Formerly Bonin and Volcano Is.

(45) Formerly Marcus Is.

(46) Only contacts dated 13 May 1969 or before will count for this country. (47) Only contacts dated before 29 November 1967 will count. Contacts after December 1967 count as Muscat and

(48) Contacts prior to 18 December 1969 count for DXCC but not for Honor

Roll!

(49) Contacts prior to 15 May, 1972 count for this country. After this date credit for Japan.

(50) Contacts prior to 1 September, 1972, count for this country. After this date credit for Honduras.

(51) Contacts prior to 16 May, 1971 count for this coredit for Tonga. this country. From this date

PREFIXES BY COUNTRIES

This is **NOT** a DXCC checking list. It **IS** an alphabetical listing of areas with Zones and Prefixes. Use the Official DXCC List for "Countries Worked" total.

Adelie Land (O-30) FR	8YY
Adam (Courth Vomon) (A 21)	7750
Aden (South Tellen) (A-21)	V 55
Afghanistan (A-21)	ΥA
Adelie Land (O-30) FB Aden (South Yemen) (A-21) Afghanistan (A-21)	
(AF-39)	VQ8
Aland Is. (E-15)	OH0
Alata (AlA 1)	7717
Alaska ((NA-1)	KL/
Albania (E-15)	. ZA
Aldabra Is. (AF-39)	VQ9
Alaska ((NA-1) Albania (E-15) Aldabra Is. (AF-39) Algeria (AF-39) Amatandam and St. Boul Is	7X
Amatardam and St Daul Ic	
Amsterdam and St. Paul Is. (AF-39)	סמש
(AF-39)	FB8
Andaman and Nicobar Is.	
(A-26)	VU5
Andorra (E-14)	PX1
Angola (AF-36)	CR6
Aligola (Al-50)	0.00
Annobon (A.F36)	3C0
Antarctica CE9, KC4AA, KC	AUS,
3Y, LU-/Z, OR4, UA1,	VK0,
VP8, (Various Zones),	ZL5,
110, (101000 =01100),	8J1
4 (' D 1 1 (N))	
	VP2A
	VP2K
Argentina (SA-13)	. LU
Armenia (A-21)	UG6
Aruba (Neth. Antilles) (NA-9)	Dī
Aluba (Neth. Anthies) (NA-9)	10
Ascension Is. (AF-36)	ZD8
Austral and French Antarctic	
(A-39)	FB8
Australia (O-29 and 30)	VK
Austria (C-29 and 30)	VK
Australia (O-29 and 30)	VK
Aves Is (NA-8)	VK OE YV0
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21)	VK VV0 VD6 CT2 VP7 MP4B
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8)	VK VV0 VD6 CT2 VP7 MP4B
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho)	VK VV0 VD6 CT2 VP7 MP4B
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho)	VK VV0 VD6 CT2 VP7 MP4B
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Syalbard)	VK YV0 UD6 CT2 VP7 MP4B HK0
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13)	VK OE YV0 UD6 CT2 VP7 MP4B HK0
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13)	VK OE YV0 UD6 CT2 VP7 MP4B HK0
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13)	VK OE YV0 UD6 CT2 VP7 MP4B HK0
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14)	VK. OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5)	VK. OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5)	VK. OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22)	VK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON VP9
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10)	VK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON VP9
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles)	WK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON CP9 AC5
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles)	WK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON CP9 AC5
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles) (NA-9) Bonin and Volcano Is. (O-27)	VK OE YV0 UD6 CT2 VP1 MP4B HK0 KB6 EA6 VP6 ON VP9 AC5 CP
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles) (NA-9) Bonin and Volcano Is. (O-27)	VK OE YV0 UD6 CT2 VP1 MP4B HK0 KB6 EA6 VP6 ON VP9 AC5 CP
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles) (NA-9) Bonin and Volcano Is. (O-27) Bouvet Is. (AF-38)	VK OE YV0 UD6 CT2 VP1 MP4B HK0 KB6 EA6 VP6 ON VP9 AC5 CP
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles) (NA-9) Bonin and Volcano Is. (O-27) Bouvet Is. (AF-38) LABOTREO (O-28)	VK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON VP9 CP CP
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles) (NA-9) Bonin and Volcano Is. (O-27) Bouvet Is. (AF-38) LABOTREO (O-28)	VK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 ON VP9 CP CP
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles)	VK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 CP CP CP KG6I etc 8F5 ZS9
Aves Is. (NA-8) Azerbaijan (A-21) Azores Is. (E-14) Bahama Is. (NA-8) Bahrein Is. (A-21) Bajo Nuevo (NA-8) Basutoland (see Lesotho) Bear Is. (see Svalbard) Baker Is. (O-13) Balearic Is. E-14) Barbados Is. (NA-8) Belgium (E-14) Bermuda Is. (NA-5) Bhutan (A-22) Bolivia (SA-10) Bonaire Is. (Neth. Antilles) (NA-9) Bonin and Volcano Is. (O-27) Bouvet Is. (AF-38) LABOTREO (O-28)	VK OE YV0 UD6 CT2 VP7 MP4B HK0 KB6 EA6 VP6 CP CP CP KG6I etc 8F5 ZS9

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Adelie Land (O-30) FB8YY	
Aden (South Yemen) (A-21) VS9	British Honduras (NA-7) VP1 1
Afghanistan (A-21) YA	British Phoenix Is. (O-31) VR1
Agalega Is. and St. Brandon	Brunei (O-28) VS5
(AF-39) VQ8	Bulgaria (E-20) LZ
Aland Is. (E-15) OHO	Burma (A-26) XZ
Alaska ((NA-1) KL7	Burundi (AF-36) 9U5
Albania (E-15)ZA	Cambodia (A-26) XU
Aldabra Is. (AF-39) VQ9	Cameroun (AF-36) TJ Campbell Is. (O-32) ZL4
Algeria (AF-33)	Campbell Is. (O-32) ZL4
Amsterdam and St. Paul Is.	Canada (NA-1 to 5) VE, 3C
(AF-39) FB8	Canal Zone (NA-7) KZ5
Andaman and Nicobar Is.	Canary Is. (AF-33) EA8
(A-26) VU5	Canton Is. (O-31) KB6
Andorra (E-14) PX1	Cape Verde Is. (AF-35) CR4
Angola (AF-36) CR6	Caroline Is. (O-27) KC6
Annobon (A.F36) 3C0	Cayman Is. (NA-8) ZF1
Antarctica CE9, KC4AA, KC4US,	Celebes and Molucca Is. (O-28) 8F6
3Y, LU-/Z, OR4, UA1, VK0,	Central African Rep. (AF-36) TL8
VP8, (Various Zones), ZL5,	Ceutay Melilla, Span. (A-33) EA9
8J1	Ceylon (A-22)
Antigua, Barbuda (NA-8) VP2A	Chad (AF-36) TT8
Anguilla (NA-8) VP2K	Chagos Is. (AF-39)
Argentina (SA-13)LU	Channel Is. (E-14) GC Chatham Is. (O-32) ZL3
Armenia (A-21) UG6	
Aruba (Neth. Antilles) (NA-9) PJ	Chine (A 23 and 24)
Ascension Is. (AF-36) ZD8	China (A-23 and 24) BY Christmas Is. (O-29) VK9
Austral and French Antarctic	Clipperton Is. (NA-7) FO8
(A-39) FB8	Cocos Is. (NA-7) TI9
Australia (O-29 and 30) VK Austria (E-15) OE	Cocos-Keeling Is. (O-29) VK9
Aves Is. (NA-8) YV0	Colombia (SA-9) HK
Azerbaijan (A-21) IID6	Comoro Is. (AF-39) FH8
Azerbaijan (A-21) UD6 Azores Is. (E-14) CT2	Congo, Rep. of (AF-36) TN8
Bahama Is. (NA-8) VP7	Congo, Rep. of (AF-36) 9Q5
Bahrein Is. (A-21) MP4B	Cook Is. (O-32) ZK1
Bajo Nuevo (NA-8) HK0	Corsica (E-15) FC
Basutoland (see Lesotho)	Costa Rica (NA-7) TI
Bear Is. (see Svalbard)	Crete (E-20) SV
Baker Is. (O-13) KB6	Crozet Is. (AF-39) FB8
Balearic Is. E-14) EA6	Cuba (NA-8) CM, CO
Barbados Is. (NA-8) VP6	Curacao (Neth. Antilles) (NA-9) PJ
Belgium (E-14) ON	Cyprus (A-20) 5B4, ZC4
Bermuda Is. (NA-5) VP9	Czechoslovakia (E-15) OK
Bhutan (A-22) AC5	Dahomey (AF-35) TY
Bolivia (SA-10) CP	Das Is. (A-21) MP4D
Bonaire Is. (Neth. Antilles)	Denmark (E-14) OZ
(NA-9) PJ	Desroches Is. (AF-39)VQ9
Bonin and Volcano Is. (O-27) KG6I	Dominica (NA-8) VP2D
Bouvet Is. (AF-38) LA, etc.	Dodecanese Is. (E-20) SV5
Borneo (O-28) 8F5	Dominican Rep. (NA-8)
Botswana (Bechuanaland)	Easter Is. (SA-12) CE0A
(AF-38) A2, ZS9	Ebon Atoll (O-31) ??
Brazil (SA-11) PY	Ecuador (SA-10) HC

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	CII
Egypt (AF-34)	SU EI
Eire (E-14)	E.I
Ellice Is. (see Gilbert Is.) El Salvador (NA-7)	YS
Enderbury Is (O-31)	KB6
Enderbury Is. (O-31) England (E-14)	G
Ethiopia (AF-37) 9E, 9F	ET3
Faeroe Is. (E-14)	OY
Falkland Is. (SA-13)	VP8
Fanning Is. (Christmas) (O-31)	CR3
Farquhar Is. (AF-39)	VQ9
Fernando de Noronha (SA-11)	PY7
Fiji Is. (O-32)	VR2
Finland (E-15)	OH
Formosa (see Taiwan)	UA1
Franz Josef Land (E-40)	F
France (E-14)French Polynesia (O-32)	FO8
Gabon (AF-36)	TR8
Galanagos Is (SA-10)	HC8
Gambia (AF-35)	ZD3
Georgia (A-21)	UG6
German Federal Rep. West	
German Federal Rep. West (E-14) DJ, DI	K, DL
German Dem Ren, East	
(E-14) DA, DJ, D. Ghana (AF-35)	K, DL
Ghana (AF-35)	9G1
Gibraltar (E-14)	ZB2
Gilbert Is. (U-31)	VR1 CR8
Gilbert Is. (O-31) Goa (A-22) Glorieuses Is. (AF-39)	FR7
Grenada (NA-8)	VP2G
Gough Is (see Tristan)	,,,,,
Gough Is. (see Tristan) Graham Land (SA-13)	. VP8
Greece (E-20)	SV
Greenland (NA-40)	OX
Guadeloupe Is. (NA-8)	FG7
Guantanamo Bay (NA-8)	KG4
Guam (O-27)	, KGb
Guatemala (NA-7)	TG
Guiana, French (SA-7)	FY7
Guinea, Portuguese (AF-35)	CR3
Guinea, Rep. of (AF-35) Guyana (SA-9) (VP3)	/G1
Haiti (NA-8)	HH
Hawaii (0-31)	KH6
Heard Is. (O-39)	VK0
Honduras (NA-7)	HR
Hong Kong (A-24)	VS6
Hong Kong (A-24) Howland Is. (G-31)	KB6
Hillingary (E-15) 114	T_{i} , T_{i}
Iceland (E-40)	TF
Ifni (AF-33)	EA9

India (A-22) VU	Marcus Is. (A-27) KG6I	Rodriguez Is. (AF-39) VQ8
Indonesia (O-28) YB, 8F	Mariana Is. (O-27) KG6	Rumania (E-20) YO
Iran (A-21) EP, EQ	Marion Is. (AF-38) ZS2	Rwanda (AF-36) 9X5
Iraq (A-21) YI	Maria Theresa (O-32) FO8M	Ryukyu Is. (A-25) KR6, KR8
Iraq/Saudi Neutral Zone	Market Is. (E15) OJ0	Saba Is. (NA-8)
(A-21) 8Z4	Marquesas (O-31) FO8	Sabah (Nth. Borneo) (O-28) 9M6
Ireland, Northern (E-14) GI	Marshall Is. (O-31) KX6	Saint Helena Is. (AF-36) ZD7
Ireland, Republic (E-14) EI	Martinique (NA-8) FM7	Saint Maarten Is. (NA-8) PJ2M
Isle of Man (E-14) GD	Mauritania (AF-35) 5T5	Saint Martin Is. (NA-8) FS7
Israel (A-20) 4X4, 4Z4	Mauritius Is. (AF-39) VQ8	St. Brandon (AF-39) VQ8
Italy (E-15) I	Mellish Reef (030)VK9	St. Kitts and Nevis (NA-8) VP2K
Ivory Coast (AF-35) TU2	Mexico (NA-6) 4A, XE, XF	St. Lucia (NA-8) VP2L
Jamaica (NA-8) 6Y5	Midway Is. (O-31) KM6	St. Vincent (NA-8) VP2S
Jan Mayen Is. (E-40) JX	Minerva Reef (O-32)	St. Peter and St. Paul SA-11) PY0
Japan (A-25) JA, JH	Monserrat (NA-8) VP2M	St. Pierre and Miquelon Is.
Jarvis Is. (Palmyra) (O-31) KP6	Monaco (E-14)	(NA-5) FP8
Java (O-28) 8F1, 2, 3	Mongolia (A-23) JT1	Samoa (U.S.) (O-32) KS6
Johnston Is. (O-31) KJ6	Morocco (AF-33) CN	Samoa, Western (O-32) 5W1
Jordan (A-20) JY	Mozambique (AF-37) CR7	San Andres and Providencia
Juan Fernandez Is. (SA-12) CE0Z	Muscat and Oman (A-21) MP4M	(NA-7) HK0
Juan de Nova (AF-39) FR7	Nauru Is. (O-31) VK9	San Marino (E-15) M1, 9A1
Kaliningradsk (E-15) UA2	Navassa Is. (NA-8) KC4	Sao Tome and Principe Is.
Kazakh (A-17) UL7	Nepal (A-22) 9N1	(A-36) CR5
Kirghiz (A-17) UM8	Netherlands (E-14) PA, PI	Sarawak (O-28)
Kamaran Is. (A-21) VS9K	Netherlands Antilles (SA-9) PJ	Sardinia (E-15) IS
Kenya (AF-37) 5Z4	Neth. New Guinea (W. Iran)	Saudia Arabia (A-21) HZ, 7Z
Kerguelen Is. (AF-39) FB8	(O-28) JZ0	Scotland (E-14)
Kermadec Is. (O-32) ZL1 Korea (A-25) HM, HL9	New Caledonia (O-32) FK8	Senegal (AF-35)
Kuwait (A-21) 9K2	Newfoundland (NA-5) VO1, 3B1	Serrana Bk. and Roncador Cay (NA-7) KS4B
Kuwait/Saudi Neutral Zone	New Guinea, N.E. (O-28) VK9	Sevichelles Is. (AF-39) VQ9
(A-21) 8Z5	New Hebrides (O-32) FU8, YJ	ς 'ly (E-15)
Kure Is. (O-31) KH6	New Zealand (O-32) ZL	S = a Leone (AF-35) 9L1
Kuria Muria (A-21) VS9H	Nicaragua (NA-7)	Sikkim (A-22) AC3
Labrador (NA-2) VO2, 3B2	Nicobar Is. (see Andaman Is.)	Figapore (A-28) 9V1
Laccadive Is. (A-22) VU4	Niger (AF-35) 5U7 Nigeria (AF-35) 5N2	Socotra Is. (AF-37) VS9
Laos (A-26)	Niue Is. (O-32) ZK2	Socorro (see Revilla G.)
Lebanon (A-20) OD5	Norfolk Is. (O-32) VK9	Solomon Is. (O-28) VR4
Leeward Is. (Br. W. Indies)	Northern Ireland (E-14) GI	Somali Republic (AF-37) 60
(NA-8) VP2	Norway (E-14) LA	Somaliland French (AF-37) FL8
Lesotho (Basutoland) (AF-38) 7P8	Ocean Is. (see Gilbert Is.)	South Arabian Federation
Liberia (AF-35) EL	Pakistan (A-21, 22) AP	(see Aden)
Libya (AF-34) 5A	Palmyra Is. (O-31) KP6	South Africa (AF-38) ZS
Liechtenstein (E-14) HB0	Panama (NA-7) HP	South Georgia Is. (SA-13) VP8
Line Is. (O-31) VR3	Papua Territory (O-28) VK9	South Orkney Is. (SA-13) VP8
Little America (SA-13) KC4	Paraguay (SA-11)ZP	South Sandwich Is. (SA-13) VP8
Lithuania (E-15)	Peru (SA-10) OA	South Shetland Is.
Lord Howe Is. (O-30) VK2	Philippines (O-27) DU	(SA-13) CE9, VP8
Luxembourg (E-14)LX	Phoenix Is. (Br.) (O-31) VR1	South-West Africa (AF-38) ZS3
Macao (A-24) CR9	Phoenix Is. (U.S.) (O-31) KB6	South Yemen (Aden) (A21)
Macquarie Is. (O-30) VK0	Pitcairn Is. (O-32) VR6	Vs9, 70
Madeira Is. (AF-33) CT3	Poland (E-15)	Soviet Union:
Malagasy (Madagascar)	Portugal (E-14) CT1	European Russian Soviet Feder-
(AF-39) 5R8	Prince Edward and Marion Is.	ated Socialist Rep.
Malawi (Nyasaland) (AF-37) 7Q7	(AF-38) ZS2	(E-16) UA1, 3, 4, 6
Malaysia, Federation of	Puerto Rico (NA-8) KP4	Asiatic Russian S.F.S.R.
(A-28)	Qatar (A-21) MP4Q	(A-18, 19)
Mali Republic (AF-35) TZ	Reunion Is. (AF-39) FR7	Ukrainian S.S.R. (E-16) UB5 White Russian S.S.R.
Malpelo Is. (NA-9) HK0	Revillagigedo Is. (NA-6) XE4	
Malta (E-15) 9H1	Rhodes (see Dodecanese) Rhodesia Southern (AF-38) 7F	(E-16) UC2
Manchuria (A-24) BY9	Rhodesia, Southern (AF-38) ZE Rio de Oro (see Sp. Sahara)	Azerbaidzhan S.S.R.
Manihiki Is. (O-32) ZK1	Rio Muni (AF-36) EA0	(E-21) UD6 Georgian S.S.R. (E-21) UF6
	EAU	Georgian S.S.R. (E-Z1) Uro

Armenian S.S.R. (E-21) UG6 Turkmen S.S.R. (A-17) UH8 Uzbek S.S.R. (A-17) UI8 Tadzhik S.S.R. (A-17) UJ8 Kazakh S.S.R. (A-17) UL7 Kirghiz S.S.R. (A-17) UM8 Karelo-Finnish S.S.R. (E-16) UN1 Moldavian S.S.R. (E-16) UN1 Moldavian S.S.R. (E-15) UQ Lithianian S.S.R. (E-15) UQ Estonian S.S.R. (E-15) UQ Estonian S.S.R. (E-15) UR Spain (E-14) EA Spanish Sahara (Rio de Oro) (A-33) EA9 Spitzbergen (see Svalbard) Spratley Is. (A-26) 1S Sudan (AF-34) ST Sumatra (O-28) 8F4 Surinam (Neth. Guiana) (SA-9) PZ Svalbard Is. (E-40) JW Swan Is. (NA-7) KS4 Swaziland (AF-38) ZD5 Sweden (E-14) SL, SM Switzerland (E-14) HB Syria (A-20) YK	Tadzhik (A-17) UJ8 Tahiti (see Fr. Oceania) Taiwan (Formosa) (A-24) BV Tanzania (AF-37) 5H3 Tasmania (O-30) VK7 Tchad Republic (AF-36) TT Thailand (A-26) HS Tibet (A-23) AC4 Timor Is. (Portuguese) (O-28) CR8 Tinian Is. (O-27) KG6T Togo (AF-35) 5V Tokelau Is. (O-31) ZM7 Tonga (Friendly) Is. (O-32) A3, VR5 Trinidade and Martim Vaz Is. (SA-11) PY0 Prinidad and Tobago Is. (SA-9) 9Y4 Tristan de Cunha and Gough Is. (AF-38) (AF-38) ZD9 Tromelin Is. (AF-39) FB8 Trucial Oman (A-21) MP4T Tunisia (AF-33) 3V8 Turkey (A-20) TA, TC Turks and Caicos Is. (NA-8) VP5 Turkoman (A-17) UH8 Uganda (AF-37) 5X5	Upper Volta (AF-35) XT2 Uruguay (SA-13) CX Uzbek (A-17) U18 Vatican City (E-15) HV Venezuela (SA-9) YV Vietnam (A-26) 3W8 Virgin Is. (U.S.) (NA-8) KV4 Virgin Is. (Br.) (NA-8) VP2V Volcano and Bonin Is. (A-27) KG6I Wake Is. (O-31) KW6 Wales (E-14) GW Wallis and Futuni Is. (O-32) FW8 West Irian (O-28) 8F6 White Russia (E-16) UC2 Willis Is. (O-30) VK4 Windward Is. (Br. W. Indies) (NA-8) VP2 Yemen (A-21) 4W1 Yugoslavia (E-15) YT, YU Zambia (N. Rhod.) (AF-36) 9J Zanzibar (AF-37) VQ1

Q CODE

Will you indicate my exact frequency in kcs? QSV Shall I send a series of VVV?

QRG

	Your frequency iskcs.		Send a series of	VVV.	
QRI	Is my note good?	QSW	Will you send or	ı · 1	čes.
	Your note varies (is poor).		I will send on	ke	S.
QRK	What is the readability of my signals (1 to 5)?	QSY	Shall I send on		
	The readability of your signals is		Send on		
	(1 to 5).	QSZ	Shall I send each		or group twice?
QRM	Are you being interfered with?		Send each word	or oroni	n twice
	I am being interfered with.	QTA	Must I cancel nr	or grou	2
QRN	Are you troubled by atmospherics?	Q 111	Cancel nr		£
	I am being troubled by atmospherics.	QTC	How many messa		vo vou to condo
QRQ	Shall I send faster?	Q.C	I have m	ages ma	for you or
	Send faster (words per minute).	QTH	What is your not	cition (1	atitude or longitude)
QRS	Shall I send more slowly?	~~~	or by other indic	eations?	attitude of longitude)
	Send more slowly (w.p.m.).		My position (loca		
QRT	Shall I stop sending?	QTR	What is the exact		
QRU	Have you anything for me?	V111	The exact time i		
	I have nothing for you.	ORR.			onstituting "official
QRV	Are you ready?	QILIL	land S.O.S."	ation c	onstituting official
	I am ready?		A distress call fo	r emers	rency use only
QRW	Shall I tellthat you are calling him	QST			message addressed
	(onkcs.?).	~~ <u>_</u>	to all amateurs.	came a	message addressed
	Tellthat I am calling him (on		to all allatours.		
			ABBREV	ZIATIO	NS
QSX	Shall I wait? When will you call again?				7113
	Wait until I have finished with I will	AA	All after.	N	No.
	call immediately (or at).	AB	All before.	PBL	Preamble.
QRZ	Who is calling me?	ADR	Address.	SIG	Signature.
	You are being called by	AE	Wait.	SVC	Service message.
QSR	Does the strength of my signals vary?	C	Yes.	TXT	Text.
OCT	The strength of your signals varies.	CL	I am closing	WA	Word after.
QSL	Can you give my acknowledgment of receipt?	GA	station. Go ahead.	W/D	Wand before
	I give you acknowledgment of receipt. (Re-			WB	Word before.
OCD	fers to messages).				sidered to have con-
QSP	Will you relay to?			amateu	r service have been
	I will relay to?	include	ed.		

	ALLOCATION OF INT	ERNATIONAL C	PALL SIGNS
Call Sign	Assigned To	Call Sign	Assigned To
AAA-AIZ	United States of America	IAA-LNZ	Norway
AMA-AOZ APA-ASZ	Spain Pakistan	LOA-LWZ	Argentine Republic
ATA-AWZ	India(Republic Of)	LYA-LYZ	Luxembourg Lithuania
AXA-AXZ	Australia (Commonwealth Of)	LZA LZZ	Bulgaria (Peoples Republic)
AYA-AZZ	Argentine Republic	MAA-MZZ	United Kingdom
BAA-BZZ	China	NAA-NZZ	United States of America
CAA-CEZ	Chile	OAA-OCZ	Peru
CFA-CKZ	Canada	ODA-ODZ	Lebanon
CLA-CMZ	Cuba	OEA-OEZ	Austria
CNA-CNZ COA-COZ	Morocco(Kingdom Of)	OFA-OJZ	Findland
CPA-CPZ	Bolivia	OKA-OMZ ONA-OTZ	Czechoslovak Socialist Rep. Belgium
CQA-CRZ	Portuguese Overseas Prov.	OUA-OZZ	Denmark
CSA-CUZ	Portugal	PAA-PIZ	Netherlands
CVA-CXZ	Uruguay(Oriental Republic)	PJA-PJZ	Netherlands Antilles
CYA-CZZ	Canada	PKA-POZ	Indonesia (Republic of)
DAA-DTZ	Germany(Federal Republic)	PPA-PYZ	Brasil
DUA-DZZ EAA-EHZ	Philippines (Republic of the)	PZA~PZZ	Surinam
EIA-EJZ	Spain Treland	QAA-QZZ RAA-RZZ	(Service Abbreviations) USSR
EKA-EKZ	USSR	SAA-SMZ	Sweden
ELA-ELZ	Liberia (Republic Of)	SNA-SRZ	Poland(People's Republic Of
EMA-EOZ	USSR	SSA-SSM	United Arab Republic.
EPA-EQZ	Iran	SSN-STZ	Sudan(Republic Of The)
ERA-ERZ	USSR	SUA-SUZ	United Arab Republic
ESA-ESZ ETA-ETZ	Estonia	SVA-SZZ	Greece
EUA-EWZ	Ethiopia Byelorussian SSR	TAA-TCZ TDA-TDZ	Turkey Guatemala
EXA-EZZ	USSR	TEA-TEZ	Costa Rica
FAA-FZZ	France and Territories	TFA-TFZ	Iceland
GAA-GZZ	United Kingdon	TGA-TGZ	Guatemala
HAA-HAZ	Hungary (People's Republic)	THA-THZ	France and Territories
HBA-HBZ	Switzerland(Confederation)	TIA-TIZ	Costa Rica
HCA-HDZ HEA-HEZ	Ecuador Switzerland(Confederation)	TJA-TJZ TKA-TKZ	Cameroon(Federal Republic) France and Territories
HFA-HFZ	Poland(People's Republic)	TLA-TLZ	Central African Republic
HGA-HGZ	Hungary (People's Republic)	TMA-TMZ	France and Territories
HHA-HHZ	Haiti(Republic Of)	TNA-TNZ	Congo(Republic Of The)
HIA-HIZ	Dominican Republic	TOA-TQZ	France and Territories
HJA-HKZ	Colombia(Republic Of)	TRA-TRZ	Gabon Republic
HLA-HMZ HNA-HNZ	Korea(Republic Of) Iraq(Republic Of)	TSA-TSZ	Tunisia Chad(Banublia Of Mbo)
HOA-HPZ	Panama	TTA-TTZ TUA-TUZ	Chad(Republic Of The) Ivory Coast(Republic Of The)
HQA-HRZ	Honduras (Republic Of)	TVA-TXZ	France and Territories
HSA-HSZ	Thailand	TYA-TYZ	Dahomey(Republic Of)
HTA-HTZ	Nicaragua	TZA-TZZ	Mali(Republic Of)
HUA-HUZ	El Salvador(Republic of)	UAA-UQZ	USSR.
HVA-HVZ	Vatican City State	URA-UTZ	Ukranian SSR
HWA -HWZ HZA -HZZ	France and Territories Saudi Arabia (Kingdom Of)	UUA -UZZ	USSR
TAA-IZZ	Italy and Territories	VAA-VGZ VHA-VNZ	Canada Australia(Commonwealth Of)
JAA-JSZ	Japan	VOA-VOZ	Canada Commonweaten Oi,
JTA-JVZ	Mongolian People's Rep.	VPA-VSZ	U.K. Overseas Territories
JWA-JXZ	Norway	VTA-VWZ	India(Republic Of)
JYA-JYZ	Jordon (Hashemite Kingdom)	VXA-VYZ	Canada
JZA-JZZ	Netherlands New Guinea United States of America	VZA-VZZ	Australia (Commonwealth Of)
KAA-KZZ	Unitted States of America	WAA-WZZ	United States of America

Call Sign	Assigned To	Call Sign	Assigned To
XAA-XIZ	Mexico	5HA-5IZ	
XJA-XOZ	Canada	5JA-5KZ	Tanzania (United Republic Of
XPA-XPZ	Denmark	5LA-5MZ	Colombia (Republic Of)
XQA-XRZ	Chile	5NA -50Z	Liberia (Republic Of)
XSA-XSZ	China	5PA-5QZ	Nigeria (Federal Republic Of
XTA-XTZ	Upper Volta(Republic Of)	5RA-5SZ	Denmark
XUA-XUZ	Cambodia(Kingdom Of)	5TA-5TZ	Malagasy Republic
XVA-XVZ	Viet-Nam(Republic Of)	5UA -5UZ	Maurtania (Islamic Republic)
XWA -XWZ	Laos (KingdomOf)	5VA -5VZ	Niger(Republic of the)
XXA-XXZ	Portuguese Overseas Prov.	5WA-5WZ	Togolese Republic
XYA-XZZ	Burma (Union Of)	5XA-5XZ	Western Samoa Uganda
YAA-YAZ	Afghanistan	5YA-5ZZ	Kenya
YBA-YHZ	Indonesia (Republic Of)	6AA-6BZ	United Arab Republic
YIA-YIZ	Iraq(Republic Of)	6CA-6CZ	Curion Arab Depublic
YJA-YJZ	New Hebrides	6DA-6JZ	Syrian Arab Republic Mexico
YKA -YKZ	Syrian Arab Republic	6KA-6NZ	
YLA-YLZ	Latvia	60A-60Z	Korea (Republic Of)
YMA -YMZ	Turkey	6PA-6SZ	Somali Republic
YNA -YNZ	Nicaragua	6TA-6UZ	Pakistan
YOA-YRZ	Romania (Socialist Republic)	6VA-6WZ	Sudan(Republic of the)
YSA-YSZ	El Salvador (Republic Of).	6xA-6xz	Senegal (Republic of the)
YTA-YUZ	Yugoslavia (Federal Soc. Rp)	6YA-6YZ	Malagasy Republic Jamaica
YVA-YYZ	.Venezuela(Republic Of)	6ZA-6ZZ	
YZA-YZZ	Yusoslavia	7AA-7IZ	Liberia (Republic of).
ZAA-ZAZ	Albania (People's Republic)	7JA-7NZ	Indonesia (Republic Of) Japan
ZBA-ZJZ	U.K. Overseas Territories	70A-70Z	
ZKA-ZMZ	New Zealand	7PA-7PZ	Southern Yemen (People's Rep. Lesotho (Kingdom Of)
ZNA-ZOZ	U.K. Overseas Territories	7QA-7QZ	Malawi
ZPA-ZPZ	Paraguay	7RA-7RZ	Algeria
ZQA-ZQZ	U.K. Overseas Territories	7SA-7SZ	Sweden
ZRA-ZUZ	South Africa (Republic Of)	7TA-7YZ	Algeria
ZVA-ZZZ	Brasil	7ZA -7ZZ	Saudi Arabia (Kingdom Of)
2AA-2ZZ	United Kingdom	8AA-8IZ	Indonesia (Republic Of)
BAA-3AZ	Monaco	8JA-8NZ	Japan
BBA-3BZ	Mauritius	80A-80Z	Botswana (Republic Of)
3CA-3CZ	Equitorial Guinea	8PA-8PZ	Barbados
BDA-3DM	Swaziland (Kingdom Of)	8QA-8QZ	Maldive Islands
BDN-3DZ	Fiji	8RA-8RZ	Guyana
3GA-3GZ	Chile	8sa-8sz	Sweden
HA-3UZ	China	8TA-8YZ	India(Republic Of)
VA-3VZ	Tunisia	8za-8zz	Suadi Arabia (Kingdom Of)
SWA-3WZ	Viet Nam(Republic Of)	9AA-9AZ	San Marino (Republic Of)
SXA-3XZ	Guinea(Republic Of)	9BA-9DZ	Iran
SYA-3YZ	Norway	9EA-9FZ	Ethopia
3ZA -3ZZ	Poland (People's Republic)	.9GA-9GZ	Ghana
AA-4CZ	Mexico	9Ha-9HZ	Malta
DA-4IZ	Philippines (Republic of	9IA-9JZ	Zambia (Republic Of)
JA-4LZ	USSR	9KA-9KZ	Kuwait
MA-4MZ	Venezuela (Republic Of)	9LA-9LZ	Sierra Leone
INA -40Z	Yugoslavia (Socialist Rep.)	9MA-9MZ	Malaysia
PA-4SZ	Ceylon	9NA-9NZ	Nepal
TA-4TZ	Peru	90A-9TZ	Congo (Democratic Rep. Of The
UA-4UZ	United Nations.	9UA-9UZ	Burundi(Republic Of)
VA-4VZ	Haiti(Republic of)	9VA-9VZ	Singapore (Republic Of)
WA-4WZ	Yemen	9WA-9WZ	Malaysia
XA-4XZ	Israel(State Of)	9XA-9XZ	Rwanda (Republic Of)
YA-4YZ	Int. Civil Aviation Org.	9YA-9ZZ	Trinidad and Tabago
ZA-4ZZ	Israel(State Of)	A2A-A2Z	Botswana (Republic Of)
AA-5AZ	Libya(Kingdom Of)	A3A-A3Z	Tonga (Kingdom Of)
BA-5BZ CA-5GZ	Cyprus(Republic Of) Morocco(Kingdom Of)		Bhutan C3A-C3Z Andorra
			Nauru L2A-L9Z Argentina

WORLD TIME CONVERSION CHART IN HOURS

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wise) it will you pass bo time zone to	Ö	2200	2100	2000	1900	1800	1700	1600	1500	1400	1300	1200	1100	1000	0900	0800	0700	0600	0500	0400	0300	0200	0100	0000	Greenwich Meridian Time. London, Eng- land.	
will be tomorrow both midnight as a to find what tin	Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3 PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	1AM	Central Europe. Ber- lin, Geneva, Stock- holm, Vienna.	
w when and the lime it is	1AN	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	Eastern Europe. Athens, Cape Town, Cairo, Moscow	
you pass midn international d in any other z	2AM	1AM	Mid Night	11PM	10 PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	Arabia, Armenia, Ethiopia, Madagas- car.	
night and date line zone. Co	3AM	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3РМ	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	Mauritius, Persia, Reunion Island.	
sterday ng in on ight 193	4AM	зАМ	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3 P M	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	Central Russia, Bom- bay, India.	
10 to 20 to		4AM	зам	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	·9AM	8AM	7AM	6AM	Calcutta, Novosi- birsk Russia, Tibet.	
u pass the Internation on. For Instance at 8 Amateur Call Book,	6	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10 PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	MA6.	8AM	7AM	French Indo China. Siam, Sumatra.	
1 THE C		6AM	5AM	4AM	зАМ	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	Philippine Islands. Perth, Australia.	
Min New York I	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	9AM	Central Australia. Tokyo, Japan,	
he left Easter	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	Eastern Australia. Melbourne, Sydney.	
(Clockwise) it will n Standard Time it	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3 P M	2PM	1PM	Noon	11AM	New Caledonia,	
t will be yes	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Noon	International Date Line. Fiji Islands. N.Z. Std. Time.	
be yesterday when	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	1PM	Nome, Alaska. Samoa Islands.	
you pass in Berlin	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	1AM	Night Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	2PM	Hawaiian Islands. Midway Islands.	
midnight and Germany and	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зАМ	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3PM	Eastern Alaska. Dawson, Juneau.	
tomorro 11 AM	3PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10 PM	9PM	8PM	7PM	6PM	5PM	4PM	Pacific Standard Time. Los Angeles, Seattle.	1
when you morrow in	4PM	3 PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	5PM	Mountain Standard Time. Calgary, Denver, Phoenix.	
om your time a pass the inter Sydney, Austr	5PM	4PM	3PM	2PM	1PM	Noon	11AM	10AM	9AM	MA8	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10PM	9PM	8PM	7PM	6PM	Central Standard Time. Chicago, Costa Rica.	
International Australia, Alv	6PM	5PM	4PM	3 PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid .	11PM	10PM	9PM	8PM	7PM	Eastern Standard Time. Montreal, New York, Peru.	
date line. ways trace l	7PM	6PM	5PM	4PM	3РМ	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10 PM	9PM	8PM	Atlantic Standard Time. Argentina, Nova Scotia.	
cone training nortzontally to the right (Counter Glock- mational date line. There is no change in date who ralla. Always trace in the shortest direction from your	8PM	7PM	6PM	5PM	4PM	3 PM	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10PM	9PM	Greenland, Rio de Janeiro, Brazil,	
o change in est direction	9PM	8PM	7PM	6PM	5PM	4PM	зРМ	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM	4AM	зам	2AM	1AM	Mid Night	11PM	10PM	Azores.	
date when from your	10PM	9PM	8PM	7PM	6PM	5PM	4PM	3 P M	2PM	1PM	Noon	11AM	10AM	9AM	8AM	7AM	6AM	5AM-	4AM	зАМ	2AM	1AM	Mid Night	11PM	Iceland, Canary Islands.	
-	4	-																					-			3



COMPLETELY SOLID STATE

"SWAN" SS-200/A TRANSCEIVER

A NEW DIMENSION IN PROGRESSIVE AMATEUR RADIO. Presenting an advanced state of the art, totally American made, Single Sideband communications triumph. This unique accomplishment produced through the expert design, professional engineering, and talented manufacturing skills of SWAN ELECTRONICS, of California, U.S.A.

- Broadband circuits eliminate transmitter tuning.
- No warm up required—operates directly from 12v DC supply.
- Full coverage 80 to 10 metres plus WWV at 10 MHz.
- 300 watts PEP input power.
- Infinite VSWR protection from an open to short circuit.
- USB/LSB/CW with semi-CW break in and sidetone monitor.
- Noise blanker with variable threshold.
- Anti-trip and delay controls.
- External VFO socket and switching controls.

- 25 kHz crystal calibrator.
- I.F. derived AGC with fast attack, controlled decay action.
- Minimized front-end overload, distortion and cross modulation.
- Excellent receiver sensitivity and selectivity.
- 2.7 kHz audio bandwidth—essentially flat 300 Hz to 3 kHz.
- 2.7 kHz crystal lattice filter with 1.7 shape factor.
- Distortion products down 30 dB or better.
- Unwanted sideband suppressed more than 50 dB.
- Carrier suppression greater than 60 dB.
- Image rejection 55 dB at 30 MHz to beter than 75 dB at 3 MHz.

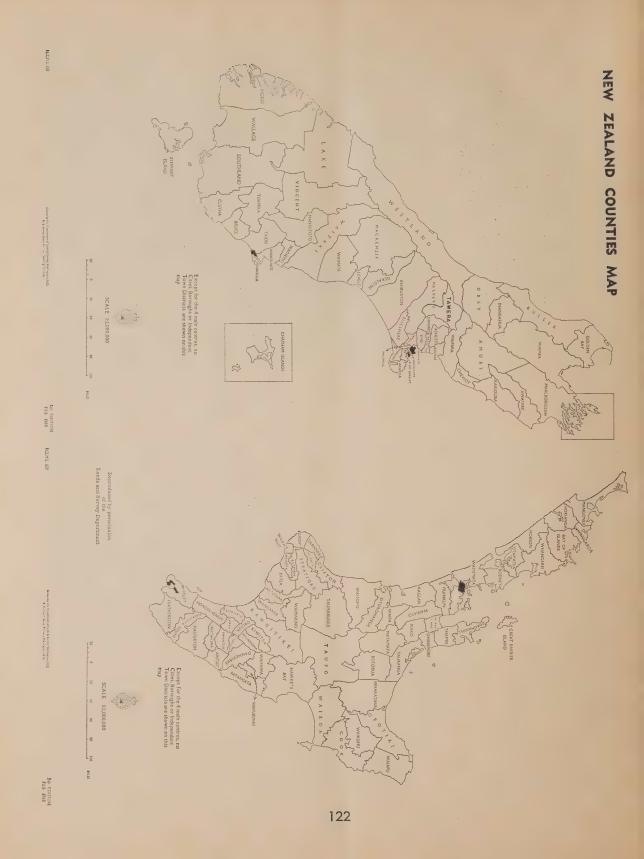
Accessories include . . . Mobile mounting rack, remote VFO, Deluxe desk microphone.

Operation from 230 volt AC supplies for home station when used with Model PS-220 power supply/speaker unit. Matching in style and dimensions.

For fuller details, prices and listing of the full range of SWAN products . . . Contact your SWAN agent . . .

DES WRIGHT LTD

19 MAIORO STREET, AVONDALE, AUCKLAND 7 PHONE 677-189



1st District 2nd District Bay of Islands Akitio Coromandel Awatere Franklin Clifton Gt Barrier/Waikeke Cook Hauraki Plains Dannevirke Hobson Eamont Hokianga Eketahuna Mangonui Eltham Matamata Featherston Ohinemuri Golden Bay Opotiki Hawera Hawkes Bay Otamatea Otorohanga Horowhenua Piako Hutt Raglan Inglewood Rodney Kairanga Rotorua Kiwitea Taumarunui Manawatu Taupo Marlborough Tauranga Masterton Thames Oroua Waikato Pahiatua Waipu Patangata Waitemata Patea Waitomo Pohangina Whakatane Rangitikei Whangarei Stratford Whangaroa Taranaki

Waiapu Levels Waikohu Mackenzie Waimarino Malvern Waimate West Mt Herbert Waimea Oxford Waipawa Paparua Waipukurau Rangiora Wairarapa South Tawera Wairoa Waimairi Waitotara Waimate Wanganui Waipara Woodville Wairewa 3rd District Westland Akaroa 4th District

Amuri Bruce Ashburton Clutha Ashlev Fiord Buller Lake Chatham Islands Maniototo Cheviot Ellesmere Eyre Geraldine Grey Halswell Heathcote

Peninsula Southland Stewart Island Taieri Tuapeka Vincent Waihemo Waikouaiti Waitaki Wallace

STATISTICS

An abridged list of information supplied by the Department of Statistics, Wellington. The list may assist amateurs in supplying accurate information to interested parties in overseas countries. The figures quoted are correct as at 23rd March, 1971 Census of Population and Dwellings.

Population:

European 2,561,280; N.Z. Maori, 227,414; Polynesian, 45,413; Fijian, 2,021; Chinese, 12,818; Indian, 7,807. — Total 2,862,631.

Household Amenities:

Total Households: 801,686.

Flush Toilets 776,230; Deep Freeze 345,930; Television 678,404; Motor Mowers 518,151; Telephones 684,601; Washing Machines 725,-618; Refrigerators 770,496; Clothes Dryers 215,123; Motor Cars Owned by or Business Car Available for Use: One Car 441,459: Two or More: 192,776.

Boats 77,529; Holiday Residences 35,581.

Electricity Generation for Public Supply 1973: Means of Generation:

> Hydro 14,109 kWh (million). Thermal 3,144 kWh (million).

Total Generation: 17,254 kWh (million). Daily Average: 47,270 kWh (ooo). Per Head of Mean Population: 5884 kWh.

Areas and Yields of Crops 1972/73 (estimated):

Wheat, 244,000 acres; Oats, 48,000 acres; Barley 182,000 acres; Maize, 37,800 acres.

Livestock 1973:

Inangahua

Kaikoura

Kowai

Dairy Cows in Milk 2,190,000. Beef Breeding Cows 1,996,000 Total Cattle 9,088,000 Pigs (Total) 507,000 Total Sheep (1972) 60,883,000

Value of Principal Exports 1972 (provisional):

Meat and Meat Preparations \$399,337,000 Butter \$181,242,000 Cheese \$65,942,000 Fruit and Vegetables \$22,716,000 \$62,297,000 Hides, Skins and Pelts Wool \$229,272,000 Sausage Casings \$15,103,000 Tallow \$8,912,000 \$25,404,000 Pulp Paper and Board \$33,712,000 Export Total \$1,369,837,000

BRANCH DIRECTORY

Correct as at May 1st, 1974

ASHBURTON

01 ASHBURTON
Clubrooms Address: Old Police Station Buildings, Mona Square.
Branch Call Sign: ZL3AF
Secretary: Trevor Churchill, ZL3ABZ.
Postal Address: 5 Albert Street, Ashburton.
President: R. J. (Dick) Wilson, ZL3FN.
Meeting Information: The first Monday each month (except January) at 8 p.m.

02 AUCKLAND
Clubrooms Address: Civil Defence Training Centre, Corner St.

O2 AUCKLAND
Clubrooms Address: Civil Defence Training Centre, Corner St.
Johns, Kohimarama, and St. Heliers Bay Road, Auckland 5.
Clubrooms Telephone: 587-729.
Branch Call Sign: ZL1AA.
Branch Net Frequency: 3650 kHz.
Date/Time: Each Monday at 9 p.m. (except Christmas period).
Secretary: E. Caldwell, ZL1ACG. Phone 585-173.
Postal Address: P.O. Box 6597, Auckland.
President: B. J. Kirkwood, ZL1BN.
Meeting Information: At the Clubrooms, 3rd Tuesday of each month except January.
A.R.E.C. meets Civil Defence Bunker, Epsom, 4th Wednesday of each month at 7.45 p.m.
Radio Classes: Every Tuesday except third Tuesday at Clubrooms, CW — 7.30 to 8.30 p.m. Theory — 8.30 to 9.30 p.m. (subject to suspension).
Additional Contact Officers: Doug. Whillans, ZL1AFW, Phone 586-764. Mark Churton, ZL1TB, Phone 568-966.

03 WESTERN SUBURBS Clubrooms Address: 3000 Great North Road, New Lynn, Auck-

Clubrooms Address: 3000 Great North Road, New Lynn, Auckland.

Branch Call Sign: ZL1RK.
Branch Net Frequency: 3.68 kHz.
Date/Time: Sunday morning, 8.00 a.m.
Secretary: S. H. G. Smith, ZL1BND.
Postal Address: 24A Evans Road, Glen Eden, Auckland 7.
President: J. W. Goodsir, ZL1BJI.
Meeting Information: 1st and 3rd Mondays, 7.30 p.m. monthly except January, at Clubrooms, 3000 Great North Road, New Lynn, Auckland 7.
Other Information: Phone GLE 4950, Syd Smith, Secretary.

04 CAMBRIDGE

04 CAMBRIDGE
Clubrooms Address: Commerce Street, Cambridge.
Branch Call Sign: ZL1ASW.
Branch Net Frequency: 3550 kHz.
Date/Time: 0900 hours.
Secretary: Jos Dekker, ZL1BHJ.
Postal Address P.O. Box 259, Cambridge.
President: Des Hamblyn, ZL1HP.
Meeting Information: Last Monday evening every month.

Clubrooms Address: 27 Galbraith Avenue, Avonside, Christ-church 6.

church 6.
Clubrooms Telephone: 899-626.
Branch Call Sign: ZL3WS.
Secretary: M. W. Bell, ZL3AO.
Postal Address: P.O. Box 1733, Christchurch.
President: T. D. Carrell, ZL3QL.
Meeting Information: Branch Meeting, 1st Wednesday of each

Meeting Information: Branch Meeting, 1st Wednesday of each month at 7.45 p.m.

A.R.E.C. Meeting, 2nd Wednesday of each month at 7.45 p.m.

V.H.F. Meeting, 3rd Wednesday of each month at 7.45 p.m.

Radio Classes: Held Tuesday evenings 7.30 to 9 p.m. from mid-February to September. All enquiries to P.O. Box 1733, Christchurch.

Other Information: Contact Officers, D. J. Mackay, ZL3RW (Phone, home 383-211, work 67-443); T. D. Carrell, ZL3QL (Phone, home 585-930); H. F. Arnold, ZL3HA (Phone 554-690).

06 DANNEVIRKE

Clubrooms Address: Corner Queen and Princess Sts., Dannevirke.

virks.
Clubrooms Telephone: 8325.
Branch Call Sign: ZLZAGM.
Branch Net Frequency: 3.850 kHz.
Date/Time: Every Sunday, 1000 hrs.
Secretary: O. D. Turner, ZLZABT.
Postal Address: Tataramoa, R.D.7, Dannevirke.
President: A. E. Law, ZLZHE.
Meeting Information: Third Monday in each month at the Clubrooms, Queen Street.
Radio Classes: Morse classes when required.
Other Information: A.R.E.C. Section Leader, C. B. Howard, ZLZAHY; Deputy, D. Barrett, ZLZADF.

8 EASTERN SOUTHLAND
Branch Call Sign: ZL4AL, C/o A. Grubb, ZL4AL.
Branch Net Frequency: 3838 kHz.
Date/Time: Every Saturday at 2000 hrs.

Date/Time: Every Saturday at 2000 hrs.

Secretary: Robert J. Todd, ZL4TCD.
Postal Address: Naumai Street, Gore.
President: A. Grubb.
Meeting Information: First Monday of the month at members'

homes

09 EGMONT

Secretary: Alistair Laing.
Postal Address: 52 Oberon Street, Stratford. (Phone 7200).
Meeting Information: Meets with New Plymouth Branch, 2nd
Tuesday of each month.

Tuesday of each month.

10 FRANKLIN RADIO CLUB (INC.)
Clubrooms Address: Franklin Road, Pukekohe.
Branch Call Sign: ZL1SA.
Branch Net Frequency: 3.7 MHz.
Date/Time: Every Sunday, 0900 NZST.
Secretary: A. J. Oldfield, ZL1ARW.
Postal Address: 11 Collingwood Road, Waiuku.
President: R. Holt, ZL1BBZ.
Meeting Information: 3rd Tuesday every month at 8 p.m. at Clubrooms.

GISBORNE

11 GISBORNE
Clubrooms Address: Rear of A. & P. Association's Showgrounds, Gisborne (right-hand entrance).
Branch Call Sign: ZLZVL.
Branch Net Frequency: 3850 kHz.
Secretary: J. M. Barraud, ZLZTGR.
Postal Address: Box 147, Gisborne.
President: Peter Omer.
Meeting Information: 2nd Monday each month at 7.30 p.m. (displaced one week if public holiday). A.G.M. March, no meeting in January.
Vice-President: R. A. Haisman, ZL2APH.
Treasurer: J. P. Thompson, ZL2JI.
Trustee: E. J. Kenny, ZL2QK.
A.R.E.C. Section Leader: E. J. Wallen, ZL2BCY.
Deputy Leader and Local QSL Manager: L. T. Lewis, ZL2BCJ.

HAMILTON

12 HAMILTON
Clubrooms Address: Seddon Road, Hamilton.
Branch Call Sign: ZL1UX.
Branch Net Frequency: 3680 kHz.
Date/Time: Mondays at 7.30 p.m.
Secretary: E. Hudson, ZL1TJN.
Postal Address: P.O. Box 606, Hamilton.
President: E. Papesch, ZL1TJNI.
Meeting Information: Club meets 7.30 p.m. first Wednesday of each month. Committee meets second Wednesday of each month, 7.30 p.m. at Clubrooms.
A.R.E.C. meets monthly on dates suitable to members.
Radio Classes: Theory Class every Tuesday night, 7 p.m. at Clubrooms.

13 HASTINGS

13 HASTINGS
Clubrooms Address: Caroline Road, Hastings.
Branch Call Sign: ZL2BEI.
Secretary: H. A. Johnson, ZL2BEJ.
Postal Address: 51 Tanner Street, Havelock North.
President: B. C. A. Hooker, ZL2BCS.
Meeting Information: 4th Wednesday each month.

In Recess. Please refer Patea Branch 54 for meeting information.

15 CENTRAL HAWKES BAY
Clubrooms Address: Private Bag 591, Waipukurau.
Clubrooms Telephone: 181 Waipukurau (P. Cooper).
Branch Call Sign: ZL2AR.
Secretary: J. Simcox, ZL2THK.
President: Brosnan, V. W.
Meeting Information: 3rd Tuesday each month except January.
Held at Pukeora Home, Waipukurau.
Contact Officer: M. Reynolds, Ruahine Motors, Waipukurau.
Phone: Business 1232. Residence 1169.

HOROWHENUA

16 HOROWHENUA
Clubrooms Telephone: 7774 Levin.
Branch Call Sign: ZL2DS.
Branch Net Frequency: 3580 kHz.
Date/Time: Approx. 0900 hours each Sunday.
Secretary: C. M. H. Thevenard, ZL2IR (Phone 7774).
Postal Address: 81 Queenwood Road, Levin.
President: E. D. Burnham, ZL2BHH (Phone 5970).
Meeting Information: 4th Wednesday each month at members'

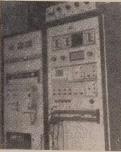
Clubrooms Address: Hakamoa Street, Huntly. Secretary: T. Turton. Postal Address: 13 Kimihia Road, Huntly. President: J. Chew.

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18 HUTT VALLEY
Branch Call Sign: ZL2HV.
Branch Net Frequency: 3675 kHz.
Date/Time: Sundays at 0900 NZST.
Secretary: T. J. Waghorn, ZL2AVY.
Postal Address: 8 Reuben Grove, Lower Hutt.
President: S. J. White, ZL2AHC.
Meeting Information: 1st Sunday each month except January and June (June meeting 2nd Sunday), Hutt Valley Tramping Clubrooms, Service Lane, Birch Street, Waterloo.
Other Information: Contact Officer: C. F. Currey, ZL2BGL, 31 Capella Flats, Waiwhetu (Phone: Business 685-109; Residence 60-637).
19 INGLEWOOD
Clubrooms Address: James Street, Inglewood.
Clubrooms Telephone: 314 Inglewood.
Branch Net Frequency: 3660 kHz.
Date/Time: Every Sunday at 0930 and 2000 hrs NZST.
Secretary: C. J. T. Martin, ZL2KV.
Postal Address: P.O. Box 74, Inglewood.
President: F. H. Cramer, ZL2AIS.
Meeting Information: 3rd Wednesday every month. Hill, New Plymouth. Branch Call Sign: ZL2BDN. Secretary: R. E. Wills, ZL2AWX (Phone: Business 5464, home 83-296). 83-296).
Postal Address: P.O. Box 815, New Plymouth.
President: J. Pinhey, ZLZLE.
Meeting Information: 2nd Tuesday, 7.30 p.m. at Clubrooms.
No meeting in January.
Radio Classes: Weekly classes — Theory and Code.
A.R.E.C. Section Leader: S. Ireson, ZLZTE.
88 NORTHLAND
Clubrooms Address: Civil Defence Training Headquarters Cafe 28 NORTHLAND
Clubrooms Address: Civil Defence Training Headquarters, Caffler Ave., Whangarei.
Branch Call Sign: ZL1AM.
Branch Net Frequency: 3740 kHz.
Date/Time: Sundays, 0900 NZST.
Secretary: I. W. Ogier, ZL1AF.
Postal Address: P.O. Box 711 Whangarei (Phone 83-542).
President: J. Oliver, ZL1BIA (Phone 84-405).
Meeting Information: 1st Wednesday each month (except January), 7.30 p.m.

28 NORTH SHOPF Meeting Information: 1st Wednesday each month (except January), 7.30 p.m.

2 NORTH SHORE
Clubrooms Address: Kennedy Park, 145 Beach Road, Castor Bay.
Branch Call Sign: ZL1WO.
Branch Net Frequency: 3780 kHz.
Date/Time: Fridays, 9.00 p.m.
Secretry: J. L. Phillips, ZL1ASV.
Postal Address: 27A Seaview Road, Takapuna.
President: C. R. McKenzie, ZL1ARC.
Meeting Information: 1st Monday each month except January
and public holidays (2nd Monday June), 7.30 p.m.
Radio Classes: Mondays in winter at 7 p.m.
Trustees: J. L. Phillips, ZL1ASV; Brian Sando, ZL1BNR.
30 OTAGO (Inc.)
Clubrooms Address: 109 Macandrew Road, Dunedin.
Branch Call Sign: ZL4JY.
Secretary: Mike Groth, ZL4GF.
Postal Address: Box 6050 Dunedin North.
President: T. W. Rhodes.
Meeting Information: General, Wednesdays at 8.00 p.m. except
January.
Radio Classes: 7.00 p.m. each Wednesday.
31 PAHIATUA
Clubrooms Address: Main Road North, Pahiatua.
Clubrooms Telanbone, 8699 (tenanother) Meeting Information: 3rd Wednesday every month.

20 MANAWATU
Clubrooms Address: Albert Street, Palmerston North.
Branch Call Sign: ZL2KO.
Branch Net Frequency: 3650 kHz.
Date/Time: Tuesday nights at 8 p.m.
Secretary: D. J. Woods, ZL2TOR.
Postal Address: P.O. Box 1718, Palmerston North.
President: P. Grove, ZL2BGO.
Meeting Information: 1st Wednesday each month except January at 8 p.m. Committee meets 2nd Wednesday each month. month. Radio Classes: Beginners class each Tuesday at 7.30 p.m. Constructors class each Saturday at 9 a.m. Contact Officer: H. N. Wiggins, ZL2BFR (Phone 82-527). Contact Officer: H. N. Wiggins, ZL2BFR (Phone 82-527).

21 MANAKAU (Inc.)
Clubrooms Address: Guide Place, Papatoetoe.
Clubrooms Telephone: AKLD 80-288.
Branch Call Sign: ZL1QB.
Branch Net Frequency: 3652 kHz.
Date/Time: Sundays at 9.30 a.m.
Secretary: Phil Abbott, ZL1ACF.
Postal Address: P.O. Box 23066, Papatoetoe.
President: Doug Soppet, ZL1BIX.
Meeting Information: 3rd Wednesday of the month 7.30 p.m.
Please Note that the slow Morse sessions from ZL1QB are now discontinued.

2 MARLBOROUGH
Clubrooms Address: John Street, Blenheim.
Branch Call Sign: ZL2AOU.
Branch Net Frequency: 3720 kHz.
Date/Time: Tuesday 2000 hrs.
Secretary: W. Bate, ZL2AAQ.
Postal Address: 22 Gilbert Street, Blenheim. Phone 4116
President: T. G. Wilkie, ZL2AMA. 13 Hale St., Blenheim. Phone 5216. Radio Classes: 7.00 p.m. each Wednesday.

31 PAHIATUA
Clubrooms Address: Main Road North, Pahiatua.
Clubrooms Telephone: 8698 (temporary connection).
Branch Call Sign: ZL2SP.
Secretary: C. H. Parker, ZL2IX.
Postal Address: Tiraumea Road, Pahiatua.
President: R. W. Brown, ZL2ACK.
Meeting Information: Third Wednesday.
32 RAHOTU COASTAL
Clubrooms Address: McGregor Lane, Rahotu.
Clubrooms Address: McGregor Lane, Rahotu.
Clubrooms Telephone: 739.
Branch Call Sign: ZL2ANN.
Secretary: L. C. Pentelow, ZL2OF.
Postal Address: Kina Road, No. 31 R.D., Opunake.
President: R. D. Corric, ZL2ACO.
Main Road Rahotu.
Also control and operate Marine Radio "ZKUJ Rahotu Radio".
33 ROTORUA AMATEUR RADIO CLUB (Inc.)
Clubrooms Address: Amohau Street, Rotorua, C/e P.O. Box
862 Rotorua.
Branch Call Sign: ZL1AVG.
Branch Net Frequency: 3725 kHz.
Date/Time: Sunday 0830 NZST.
Secretary: Len Fish, ZL1BLR. Phone 85-194 day; 82-779 night.
Postal Address: P.O. Box 862, Rotorua.
President: Brian Yerex, ZL1TLP. Phone 83-674.
Meeting Information: Regular monthly meeting on 3rd Tuesday
each month. Informal meetings on remaining Tuesday evenings in month. Visitors especially welcome.
Radio Classes: Wednesday evenings, 8 p.m.
CW Classes, contact Hon. Sec.
34 TIMARU
Clubrooms Address: 32 Newton Street, Timaru.
Clubrooms Telephone: 89-044. Meeting Information: 2nd Monday in month at Clubrooms. 23 MARTON
Secretary: T. F. Rubery, ZL2NR.
Postal Address: C/o Box 79 Marton.
President: H. Wright, ZL2TL.
Meeting Information: Held at members' residences as business 24 MOTUEKA Clubrooms Address: Members' Shacks. Postal Address: 136 King Edward Street, Motueka.
President: W. N. Simpson, 23 High Street, Motueka.
Meeting Information: By arrangement at members' homes.
25 NAPIER Meeting Information: By arrangement at members' homes. 25 NAPIER Clubrooms Address: 123 Latham Street, Napier. Branch Call Sign: ZL2ABJ. Branch Net Frequency: 3730 kHz. Date/Time: Wednesdays 0800 GMT. Secretary: Mrs Karen Wilson, ZL2AQO. Postal Address: P.O. Box 4030 Napier. President: D. W. Mudford, ZL2AMV. Meeting Information: 3rd Sunday each month at Clubrooms, 0730 GMT. Radio Classes: CW and Theory Classes: Thursdays 0700-0900 GMT. Contact Officer: W. Forsyth, ZL2ALO. Phone 37-539. 26 NELSON Clubrooms Address: Maitai Valley Road, Nelson. 34 TIMARU
Clubrooms Address: 32 Newton Street, Timaru.
Clubrooms Telephone: 89-044.
Branch Call Sign: ZL3UR.
Secretary: Doug Baker, ZL3GC.
Postal Address P.O. Box 73.
President: Starr Moffatt.
Meeting Information: General meetings held on the last Monday of each month. Meetings commence at 8.00 p.m.
A.R.E.C. Section Leader: Brian Gorman, ZL3CN.
35 SOUTH OTAGO
Secretary: A. Orton.
Postal Address: Church Street, Clinton.
President: J. L. Findlater. 26 NELSON
Clubrooms Address: Maitai Valley Road, Nelson.
Branch Call Sign: ZL2ARG.
Branch AREC Net Frequency: 3895 kHz.
Date/Time: Sundays at 0900 NZST.
Secretary: M. C. Simpson, ZL2AKK.
Postal Address: 8 Warwick St., Richmond, Nelson.
President: K. G. Banks, ZL2GI.
Meeting Information: At Branch Clubrooms on the 4th Wednesday of each month at 8.00 p.m.
Radio Classes: Each Friday night from 7.00 to 9.00 p.m.
27 NEW PLYMOUTH
Clubrooms Address: C.D. Buildings, Robe Street at Marsland 36 SOUTH WESTLAND
Secretary: W. A. Buchanan, ZL3TM.
Postal Address: 167 Seawell Street, Hokitika.
Meeting Information: Last Wednesday of every even month, at member's home.
37 SOUTHLAND
Clubrooms Address: Ettrick Street, Invercargill.
Clubrooms Telephone: 88-686.
Branch Call Sign: ZL4GQ. President: N. Checketts, ZL40X.
Meeting Information: Monthly meetings 3rd Tuesday at 7.45 p.m. (except January).
Padio Classes: Weekly, Thursday night.
38 TAUMARUNUI
Branch Call Sign: ZL1ATO.
Secretary: C. Barltrop, ZL1LX.
Postal Address: 228 Taumarunui.
President: H. R. W. Bunn, ZL1JV.
Meeting Information: Due to small membership meetings are irregular. Meeting Information: 1st Monday of the month at 7.30 p.m. (except January) at the Clubrooms, 2 Peat Street, Wanganui. Contact Officer: John Lynch, ZL2QW, Phone 39-188. 49 WESTLAND WESTLAND
Clubrooms Address: Cobden Bowling Clubrooms, Greymouth.
Branch Call Sign: ZL3DN.
Secretary: T. M. Brett (Mrs), ZL3TC.
Postal Address: 17 Josephine Street, Greymouth.
President: B. J. McQuarrie, ZL3TY.
Meeting Information: 1st Wednesday of each month at 7.30 irregular.
Secretary: T. R. Service, ZL4GJ.
Postal Address: P.O. Box 1260 Invercargill.
39 TAURANGA Meeting Information: 1st Wednesday of each month at 7.30 p.m.
Contact Officer: Mrs Z. H. Garlick, ZL3AAB.
Radio Classes: One series of classes each year.
50 WELLINGTON
Branch Call Sign: ZL2WB.
Secretary: Jim Logan, ZL2TSB.
Postal Address: P.O. Box 6243, Te Aro, Wellington.
President Bruce Durdle, ZL2BAM.
Meeting Information: Third Tuesday each month, 7.30 p.m.,
M.E.D. Building, Webb Street.
Radio Classes: Contact ZL2BAM.
51 EASTERN BAY OF PLENTY
Branch Call Sign: ZL1AIU.
Branch Net Frequency: 3720 kHz.
Date/Time: Mondays, 1830 hrs.
Secretary: C. E. Shaw, ZL1CS, Phone 5566.
Postal Address: Box 2088 Whakatane.
President: J. P. Rowe, ZL1AVR.
Meeting Information: The 4th Saturday in the month held in the Communication Hut, Hillcrest, Whakatane, at 7.30 p.m. No meeting in January. 39 TAURANGA
Branch Net Frequency: 3600 kHz. (146 MHz).
Date/Time: Every Sunday 0900 hrs. (Every Wednesday 2000 hrs).
Secretary: George R. Knaggs, ZL1AQY (Phone 83-256).
Postal Address 31 Henderson Crescent, Tauranga.
President Peter Croucher ZL1TGT.
Meeting Information 1st Thursday every month, 1930 hours.
VHF Section meets by arrangement.
Radio Classes Contact Secretary for information.
Tauranga Branch 39 extends an open invitation to visiting hams. hams.

TE AWAMUTU
Clubrooms Address: Albert Park, George Street.
Branch Call Sign: ZL1CB.
Branch Net Frequency: 3865 kHz.
Secretary: G. H. Grayston, ZL1AHC.
Postal Address: Box 44 Te Awamutu.
President: R. G. Cullen, ZL1WR.
Meeting Information: Third Wednesday each month, 8 p.m. at Clubroom.

1 THAMES
Clubrooms Telephone: 188.
Branch Net Frequency: 3850 kHz.
Secretary: B. Ludwig.
Postal Address: P.O. Box 33, Thames.
President: N. H. Browne.
Meeting Information: 2nd Monday of the month in members' homes at 7.30 p.m.

1 TITAHI BAY
Clubrooms Address: Tireti Hall, Titahi Bay.
Branch Call Sign: ZL2AFV.
Branch Net Frequency: 3700 kHz.
Date/Time: Sunday mornings at 1100 hours NZST.
Secretary: A. D. Holland, ZL2BHW.
Postal Address: 5 Rose Street, Rauni Heights, Porirua.
President: L. Nicol, ZL2AGJ.
Meeting Information: 1st Tuesday every month (except January), commencing at 7.30 p.m.

WAIHI
Clubrooms Address: C/o Pye Manufacturing Division.
Branch Call Sign: ZL1BAE. hams. TE AWAMUTU meeting in January.
Contact Officer: J. King, ZL1AOF, C/o Borough Council, Whaka-52 NORTHERN HAWKES BAY Secretary: C. W. Dixon, ZL2FT. Postal Address: 76 Lahore Street, Wairoa. 53 TE PUKE Secretary: R. J. H. Hollis.
Postal Address: 46 Beatty Avenue, Te Puke.
President: F. W. Miller.
Meeting Information: 2nd Sunday in month at member's home in turn. in turn.

54 PATEA
Branch Call Sign: ZL2APU.
Secretary: J. A. Gunn, ZL2TLY.
Postal Address: 23 Middlesex St., Patea.
President: M. B. Spearman, ZL2TOG.
Meeting Information: 3rd Monday each month at members' homes. 55 WAITOMO
Clubrooms Address: C/o 35 Orahiri Terrace.
Contact Phone 7190.
Branch Call Sign: ZL1IZ.
Secretary: B. L. Marx, HN135.
Postal Address: P.O. Box 209, Otorohanga.
President: I. M. Howitt, ZL1BZ.
A.R.E.C. Shack at Water Tower, Thompson Avenue. Phone via County Council's P.A.B.X.
56 HORNBY AND DISTRICTS
Clubrooms Address: Holmes Park, English Street.
Branch Call Sign: ZL3VV.
Branch Net Frequency: 3650 kHz.
Date/Time: 1st Tuesday 1930 NZST.
Secretary: L. F. Coles, ZL3UV.
Postal Address: 232 Shortland St., Christchurch 6.
President: D. K. Hampton, ZL3II.
Meeting Information: 1st Tuesday of each month except January.
57 TOKOROA 43 WAIHI
Clubrooms Address: C/o Pye Manufacturing Division.
Branch Call Sign: ZL1BAE.
Secretary: G. H. Street, ZL1AUG.
Postal Address, Box 93 Waihi.
President: R. J. Boggiss.
Meeting Information: 2nd Wednesday every month except January, commences 7.30 p.m. at Pye Manufacturing Division Cafeteria, Moresby Ave., Waihi.
44 MATAMATA
Branch Call Sign: ZL1RF.
Branch Net Frequency: 3560 kHz.
Date/Time: Sundays at 0900.
Secretary: D. B. Hardwick, ZL1AXQ.
Postal Address: Wardville Road, Waharoa.
President: W. W. Coates, ZL1GQ.
Meeting Information: 2nd Wednesday each month at 8 p.m.
Contact Officer: Phone 7107; Business 7714.
45 WAIMARINO
Branch Call Sign: ZL2MG. 57 TOKOROA
Clubrooms Address: Behind Police Station, Logan St., Tokoroa.
Branch Call Sign: ZL1AQR.
Branch Net Frequency: 3750 kHz.
Date/Time: Sundays at 1800 NZST.
Secretary: John Ten Velde, ZL1ACH.
Postal Address: P.O. Box 246 Tokoroa.
President: Ross Glover, ZL2AYI/I
Meeting Information: Third Monday of each month at Clubrooms, 2000 NZST.
58 HELENSVILLE
In precess TOKOROA 45 WAIMARINO
Branch Call Sign: ZL2MG.
Secretary: G. W. Luscombe, ZL2AVL.
Postal Address: Main Road, Waiouru. Phone 707,
President: D. Prime, ZL2JL, Dixon Way, Taihape.
Meeting Information: 2nd Saturday of each month at members'
homes, starting 8.00 p.m.
46 WAIMARAPA 46 WAIRARAPA
Clubrooms Address: Railway Road, Masterton.
Branch Call Sign: ZL2BDZ (Trustee: J. Henderson).
Secretary: C. G. Coutts, ZL2TRX.
Postal Address: 23 Michael Street, Masterton.
President: W. A. Campbell, ZL2AIB.
Meeting Information: Second Thursday of month excluding January, at 8.00 p.m.
47 WAITARA
Clubrooms Telephone: 7062.
Branch Call Sign: ZL2TO.
Secretary: D. B. Allen, ZL2AQA, 12 High Street, Waitara.
President: T. Barden, ZL2AKZ.
Meeting Information: 1st Wednesday each month at residence of Secretary.
48 WANGANUI
Clubrooms Address: 2 Peat Street, Wanganui. 46 WAIRARAPA MANGAKINO In recess 60 TAUPO
Clubrooms Address: Taupo County Depot, Spa Road, Taupo.
Clubrooms Telephone: 2235 Taupo.
Branch Call Sign: ZL1BCO.
Branch Net Frequency: 144.2 MHz.
Date/Time: Sundays, 10 a.m.
Secretary: Don Dick.
Postal Address: P.O. Box 165, Taupo.
President: W. L. Taylor, ZL1TIN.
Meeting Information: 1st Tuesday each month at 7.30 p.m.
Contact Officer: R. Miller, ZL1SO, C/o N.Z.B.C., Taupo.
61 CENTRAL OTAGO
Clubrooms Address: C/o A. F. Cresswell, ZL4FX, Omakau.
Clubrooms Telephone: Omakau 497.
Secretary: J. G. Wilkinson, ZL4FI (Phone 8798 Alexandra). TAUPO 48 WANGANUI Clubrooms Address: 2 Peat Street, Wanganui. Branch Call Sign: ZL2BAW. Secretary: B. E. Stewart, ZL2AUS. Postal Address: 37 Quick Avenue, Wanganui. President: L. Boyle, ZL2BGE.

62 REEFTON-BULLER

Clubrooms Address: 8 Queen Street, Cnr. Queen and Gladstone

Clubrooms Address: 8 Queen Street, Cnr. Queen and Gladstone Streets.
Clubrooms Telephone: 7408 (meeting nights only).
Branch Call Sign: ZL3WP.
Branch Net Frequency: 3880 kHz.
Date/Time: Sundays at 1100 NZST.
Secretary: G. W. Lobb, ZL3PB. Phone 7461.
Postal Address: 64 Peel Street, Westport.
President: J. F. Bevin, ZL3PW. Phone 8486.
Meeting Information: 1st Monday of month, 7.30 p.m. (No meeting January).
Radio Classes: Wednesday nights, 7.30 p.m.
Postal Address: 77 Russell Street, Alexandra.
President: J. V. Colyer, ZL4KE.
Meeting Information: 3rd Sunday: February, March, May, July, September, November at 1400 hours.
Contact Officers: J. G. Wilkinson, ZL4FI (Phone: home 8789);
J. V. Colyer (Phone: home 2777).

63 UPPER HUTT (Inc.)
Clubrooms Address: Upper Hutt Civic Buildings.
Branch Call Sign: ZLZVH.
Branch Net Frequency: 3640 kHz.
Date/Time: Each Monday at 7.30 p.m.
Secretary: Jamie Pye, ZLZNN.
Postal Address: P.O. Box 40-212, Upper Hutt.
President: Peter Norden, ZLZTOX.
Meeting Information: 2nd Sunday of each month (except January) at 7.30 p.m. in above Clubrooms.

64 NORTH OTAGO
Clubrooms Address: 24 Itchen Street, Oamaru.
Branch Call Sign: ZL40U.
Branch Net Frequency: 3850 kHz.
Secretary: S. V. Vincent.
Postal Address: 1 C.R.D. Oamaru.
President: R. Watson.
Meeting Information: Held on the fourth Tuesday each month.

65 PAPAKURA (Inc.)
Clubrooms Address: Girl Guide Hall, Opaheke Road, Papakura.
Branch Call Sign: ZL1VK.
Branch Net Frequencies: 3750 kHz and 144.380 MHz.
Date/Time: Every Sunday at 0900 hours (3750 kHz) and every
Sunday at 0945 hours (144.380 MHz.)
Secretary: E. T. Davis, ZL1BID.
Postal Address: 28 Royal Arch Place, Papakura.
President: G. A. Penney, ZL1APO.
Meeting Information: 1st Wednesday of every month (except
January) at 1930 hours. Held at Girl Guide Hall, Opaheke
Road, Papakura.
Contact Officer: Ian Morrow, ZL1TRR.

66 AUCKLAND V.H.F. GROUP (Inc.) Clubrooms Address: Hazel Ave., Mt Roskill, Auckland. Branch Call Sign: ZL18Q. Branch Net Frequency: Channel C Repeater, 146.30 input, 145.60

output.

Date/Time: Any time.
Secretary: W. B. Wood, ZL1AJK.
Postal Address: P.O. Box 10138 Balmoral, Auckland.
President: D. G. Dingley, ZL1TIA.
Meeting Information: Second Monday of each month, 7.30 p.m.
Informal technical meeting fourth Monday of month, 7.30

Radio Classes: Sunday mornings, at Clubrooms, 9 a.m.-12 noon. 67 KAWERAU

67 KAWERAU
Clubrooms Address: A.T.C. Hall, Onslow Street.
Clubrooms Telephone: 8722.
Branch Call Sign: ZL1KW.
Secretary: J. B. Armstrong, ZL1AZX.
Postal Address: 10 Normanby Street, Kawerau.
President: G. Whitwell, ZL1BGE.
Meeting Information: Third Wednesday night each month, 7.30

p.m. Contact Officer: L. Shakes, ZL1BII, phone home 8275; work 8699, ext. 842.

68 NORTH CANTERBURY
Clubrooms Address: Borough Council Old Electrical Workshop,
Percival St., Rangiora, opp. Fire Station.
Branch Call Sign: ZL3RR.
Branch Net Frequency: 3650 kHz.
Date/Time: 2nd Monday of month, 8.00 p.m.
Secretary: Richard Clark.
Postal Address: P.O. Box 89 Rangiora.
President: John Abernathy, ZL3PC.
Meeting Information: General meeting 2nd Tuesday of month, 7.45 p.m.
North Canterbury V.H.F. Group meetings last Monday in month, 7.45 p.m.

69 KAPITI

69 KAPITI
Clubrooms Address: McLean St., Paraparaumu Beach.
Clubrooms Telephone: 5139 Paraparaumu (meeting nights only).
Branch Cal Sign: ZL2KB.
Branch Net Frequency: 144.5 MHz, 3800 kHz.
Secretary: A. L. Beale, ZL2TQC.
Postal Address: 35B Teoti St., Paraparaumu.
President: L. C. Blackley, ZL2TFP.
Meeting Information: Alternate Wednesdays 8 p.m., at Clubrooms, McLean St., Paraparaumu.
Contact Officer: Mr L. F. Carlisle, ZL2CL. Phone 8367.

70 FEILDING

70 FEILDING
Clubrooms Address: P.O. Box 416.
Branch Call Sign: ZL2AMR.
Branch Net Frequency: V.H.F., F.M. Channel 'D'.
Secretary: J. R. Bould, ZL2AUO.
Postal Address: P.O. Box 416.
President: J. J. Williamson, ZL2ANP.
Meeting Information: Every third Monday of each month (except December and January).

71 RODNEY
Clubrooms Address: Civil Defence Hdq., School Rd., Wellsford.
Clubrooms Telephone: WFD 8999.
Branch Net Frequency: 3740 kHz.
Date/Time: Sundays at 0900 hrs (Northland Branch 28 Net).
Secretary: Audrey Littin, ZL1TDL.
Postal Address: P.O. Box 56, Wellsford.
President: Brian Nelson, ZL1AZU.
Meeting Information: Meets every 3rd Wednesday in Clubrooms at 8.00 p.m. Phone Secretary, Wellsford 5661 for further information.

74 WELLINGTON V.H.F. GROUP (Inc.)
Clubrooms Address: Municipal Electricity Department Cafeteria,
Webb Street.
Branch Call Sign: ZL2WA.
Secretary: V. N. Henderson, ZL2TGH.
Postal Address: P.O. Box 12-259, Wellington North.
President: A. Fleming, ZLZTKP.
Meeting Information: Last Thursday of month (except December and January) in above Clubrooms, at 7.30 p.m.

75 QUEENSTOWN No information.



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			K	G 60	0		K	G 900)	KG 1300					
	Frequency	/		50Hz		60Hz		50Hz		60Hz		50Hz		60Hz	
	Volts		110V	220V	240V	1100	110V	220V	240V	110V	110V 220V 240V			110V	
A.C.	0.4-4	Rated	510VA			600VA	810VA			900VA	A 1100VA			1300VA	
	Output	Max.		630V	Α	750VA	990VA			1100VA	1350VA			1600VA	
	Power Fac	etor	1.0												
D.C.	Output			12V. 100W											
	Engine		4-cycle, air cooled, gasoline engine												
-			3.0 lit	(0.7 Ir (0.8 U	np. gal.) .S. gal.	for 4.5 h.	3.0 li	t. (0.7 0.8	Imp. gal.) U.S. gal.)) for 4 h. 5.0 lit (1.1 lmp. gal				for 4.5 h.	
	KAWASAKI ***			25kg	(55	lbs)		30kg	(66	bs)	42kg (92 lbs)				
	KAWASARI				381mm 14.9 in)				00mm 15.6 in)	571 x 308 x 419mm (22.3 x 12.0 x 16.3 in)					
		4		\$2	298.00)		\$3	348.00)	\$458,00				

N.B.: 3KVA units will be available approximately November 1974.

JOHN GILBERT & COMPANY LTD.

ELECTRONIC PARTS AND EQUIPMENT

KG 900

TASMAN BUILDING 16-22 ANZAC AVENUE AUCKLAND 1 NEW ZEALAND

FIRST-AID TREATMENT FOR . . .

Electric Shock EVERY MOMENT IS VITAL

When possible DISCONNECT the power supply IMMEDIATELY.

Free victim from electric contact using UTMOST CAUTION.

Beware of contact with LIVE conductors.

RESCUE BREATHING

is normally the best method for ELECTRIC SHOCK, DROWNING, SUFFOCATION, and SIMILAR ACCIDENTS

On circuits up to and including 650 volts, if it is not possible to disconnect the power quickly, either insulate yourself by standing on dry non-conducting material such as a rubber mat or protect your hands with insulating material (e.g., layers of dry clothing or paper) and pull the victim clear of contact, or drag the victim away by means of a dry rope, clothing, wood, or other non-conducting material.

DON'T use either metals or damp materials. On circuits above 650 volts where it is not possible to disconnect the power quickly, only trained persons should attempt to release the victim using appropriate means of insulation. If such means are not available, the rescuer must earth the line, being particularly careful to keep clear of the earth lead and a possible power arc.

AFTER RELEASE FROM CONTACT start rescue breathing without delay if breathing has stopped, is intermittent, or is very weak. The time interval in which successful resuscitation can be achieved is very short.

DOCTOR and AMBULANCE-Send someone else to call them as soon as possible.

BURNS—Do not burst blisters or pull off clothing which has stuck.

Cover exposed parts with a clean cloth or towel only.

Whatever the victim's position—ensure he has a good airway by extreme tilting of his head (fig. 1), this will lift the tongue clear of the airway and the victim may gasp and start to breathe without further help. If he does not breathe, the lack of air is critical and rescue breathing should be started immediately (fig. 2).

Make the first 5 to 10 breaths deep (but not forceful) to achieve a rapid increase in oxygen supply to the victim. Then continue with 10 - 15 breaths a minute. When he starts to recover breathe in time with his efforts.



Fig. 1—Hold head fully tilted with chin pulled forward. Open your mouth wide, take a deep breath. Hold his mouth closed.



Fig. 2—Seal your lips on his cheeks around his nose (avoid closing his nostrils) and blow until you see his chest rise.



Fig. 3—If rescue breathing through his mouth, seal your mouth around his opened mouth (or parted lips) blocking his nostrils with your cheek to prevent leakage, and blow.



Fig. 4—Remove your mouth while you tak another breath, with your head turner aside. As soon as he has breathed ou inflate his lungs again.

FOR SMALL CHILDREN seal your mouth around child's mouth and nose and blow gently (puffs only for infants) at least 20 times a minute. Stop each inflation as you see the victim's chest expand (fig. 4). Aid blown into the stomach may decrease the blood flow returning to the heart or cause vomiting. Excess air may be removed by gentle pressure on the stomach, but emptying air from it, can cause its contents to be regurgitated into the throat. Usually it will not be necessary to remove this stomach air—If his nose is blocked, try rescue breathing through his mouth by sealing your lips around his opened mouth, and blocking his nostrils with your cheek (fig. 3) to prevent air leakage—If his throat is blocked, clear it quickly with your fingers. Slaps between the shoulder blades should dislodge a stubborn blockage—Continue without interruption for at least 2 hours or until natural breathing is restored—When victim commences breathing ensure that you keep your breath in time with his efforts if he still requires assistance—Don't move the victim until breathing is fully restored, unless moving him is necessary to avoid exposure, and if it is possible to continue rescue breathing without interruption.

DURING RECOVERY outpourings of saliva and nasal and gastric secretions usually take place. Retching and vomiting may follow. To prevent inhalation of vomitted material which can cause infection of the lungs and also to prevent the tongue in an unconscious victim obstructing the airway—

Place the victim in the coma position (fig. 5).



Fig. 5

- (i) Lay the victim on his side.
- (ii) Place the arm and forearm of the side on which he is lying behind his back and bend the knee of the same side slightly.
- (iii) Place the other (upper) limb in a convenient position, bending both the hip and knee to nearly a right-angle.

KEEP A CLOSE CHECK ON HIS BREATHING

Produced by the New Zealand Electricity Department in consultation with the Departments of Health and Labour.

APPROVED BY THE GENERAL MANAGER, NEW ZEALAND ELECTRICITY DEPARTMENT FOR THE PURPOSES OF THE ELECTRICAL SUPPLY REGULATIONS